National Safety News

AUGUST 1952

Ready and Safe

THIS MONTH

Wear Better Feel Better Look Better

MADE OF ACID, CAUSTIC, AND ABRASION RESISTANT DYNEL

COMFORT TAILORING AT EVERY POINT

ATTRACTIVE, SERVICEABLE GRAY COLOR

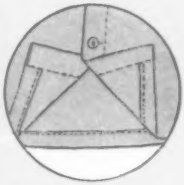
. . . M·S·A ChemKlos

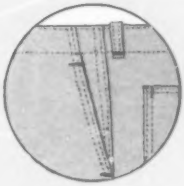
All shoulder seams are folded in and double stitched for strength and comfort.

Barrel-type cuffs, double thickness for durability. All outer seams of shirt are double or triple stitched with acid resistant thread.

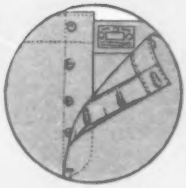
Full cut, comfortable two-way sport collar. Accurate sizing. Shirts of 6 oz. Dynel.

Double fold on shirt front provides extra strength for buttonholes and button anchoring. All edges are folded back and stitched.





Seven extra-wide bar tacked belt loops for comfortable support. Trousers and pocket linings made of Dynel throughout.



Reinforced fly to prevent tearing. Brown method outlet in back. Buttons are of acid and caustic resistant plastic. All buttonholes are eyeletted. Trousers of 8 oz. Dynel.

M.S.A. ChemKlos COVERALLS

Exclusive continuous fly design prevents tearing when stepping in or out of the garment.

Bi-swing back construction permits free arm and trunk movement with no hitching. Coveralls of 8 oz. Dynel.

Two Dynel-lined hip pockets conveniently spaced. Waistband and all pockets are double stitched.

Two slash-type side pockets. Two front patch pockets.

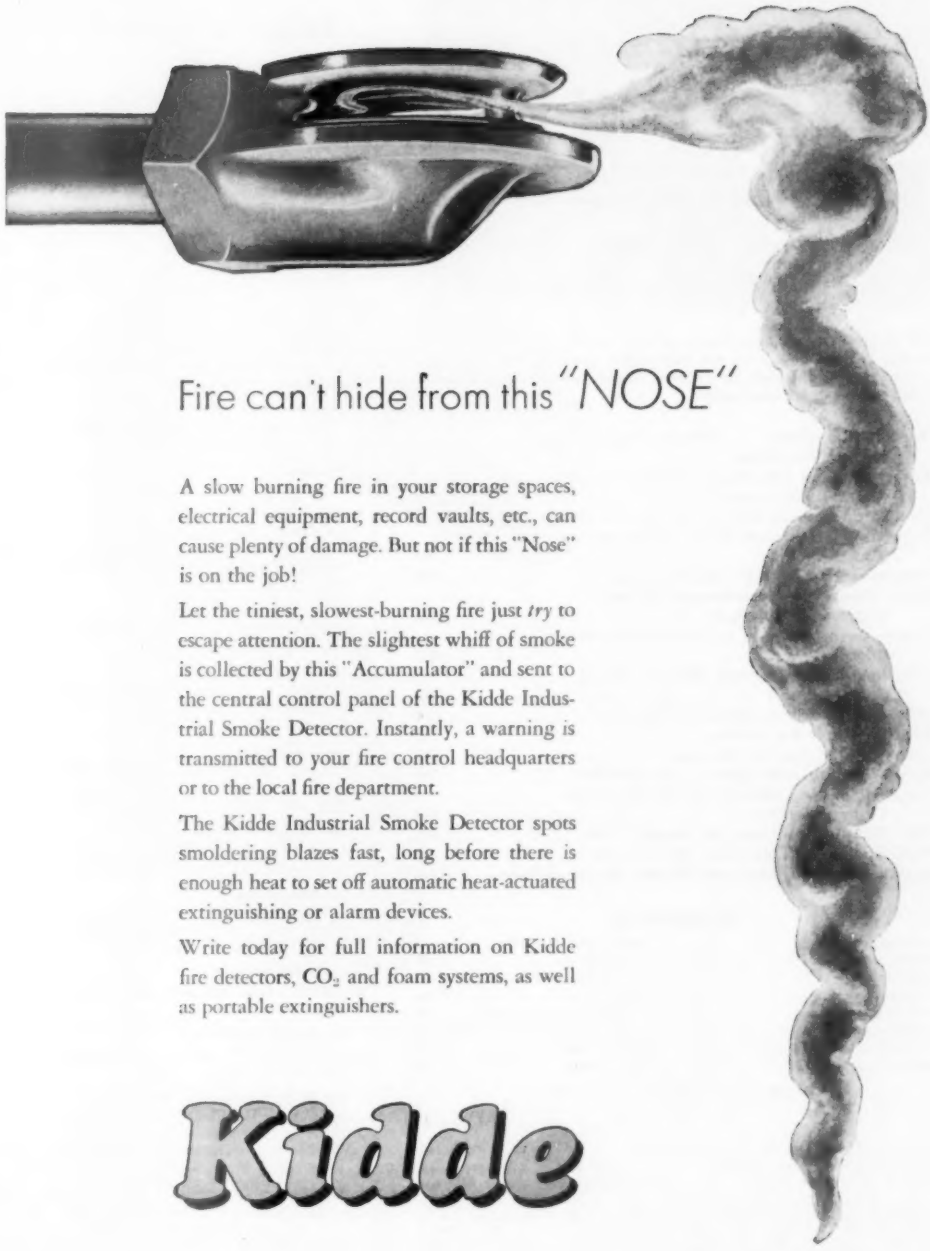
From collar to trouser cuff, M.S.A. ChemKlos, in smart-looking, serviceable gray, have the construction and fabric features that meet industry's demands for longer-wearing, comfortable work clothes. Made throughout of Dynel, the new fiber which resists acids and caustics, and loomed in a special weave that gives improved abrasion resistance, M.S.A. ChemKlos wear ON when other work clothes wear OUT. This greater life is in the fabric—not added by a chemical process.

End your work clothes problems today. Write now for our bulletin which completely describes these and the many other M.S.A. ChemKlos advantages.

SAFETY EQUIPMENT HEADQUARTERS

Call the M.S.A. man on your every safety problem . . . his job is to help you.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts., Pittsburgh 8, Pa.
At Your Service: 68 Branch Offices in the United States
MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Winnipeg, Vancouver, New Glasgow, N.S.
Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh



Fire can't hide from this "NOSE"

A slow burning fire in your storage spaces, electrical equipment, record vaults, etc., can cause plenty of damage. But not if this "Nose" is on the job!

Let the tiniest, slowest-burning fire just *try* to escape attention. The slightest whiff of smoke is collected by this "Accumulator" and sent to the central control panel of the Kidde Industrial Smoke Detector. Instantly, a warning is transmitted to your fire control headquarters or to the local fire department.

The Kidde Industrial Smoke Detector spots smoldering blazes fast, long before there is enough heat to set off automatic heat-actuated extinguishing or alarm devices.

Write today for full information on Kidde fire detectors, CO_2 and foam systems, as well as portable extinguishers.

Kidde

Walter Kidde & Company, Inc., 845 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

National
SAFETY NEWS
Published monthly by
National Safety Council
AUGUST 1952 Vol. 66, No. 2

THE COVER: This toolboard, typical of those installed in plants of Brown-Forman Distillers Corporation, has been helpful in keeping tools in a safe, serviceable condition, ready for use when needed. Each tool has a duplicate. (Photo courtesy "The Brown Forum")

DEPARTMENTS

31,350 copies of this issue were printed

● ● ●

NATIONAL SAFETY NEWS is published monthly by National Safety Council. Copyright 1952 by National Safety Council. Printed in U.S.A. Entered as second class matter June 21, 1921, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Subscription rate: To members, $5.50 per year, single copies 55 cents; to non-members, $7.50 per year, single copies, 75 cents. Quantity prices for yearly subscriptions and single issue on request. Member Audit Bureau of Circulation. Indexed in Industrial Arts Index.
Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

Biggest hit of the year—

new Lehigh "Jets"

the
laceless
slipon
safety
shoe

A brand new style idea that's caught on like wildfire in men's dress shoes . . . *another* Lehigh first, with reliable Lockrim* steel toe protection built in! Not a loafer or a casual, but smart as any oxford for street or work wear. Easy to slide on . . . easy-fitting . . . *off in a flash* if feet get involved in an accident. **Order a sample pair** for display to put more of your men in safety shoes.

LEHIGH SAFETY SHOE COMPANY
ALLENTOWN, PA.

Stock No. 1630 *Russet side-gore slipon with leather counter, lined quarter, steel shank, leather sole, half rubber heel. Sock-saver* leather toe lining. Genuine Goodyear Welt.*

WIDTHS	SIZES
A, B	6 to 12
C, D, E, EE	5 to 13

*T. M. Reg.

New MSco protection for field personnel...

to prevent discomfort . . . inefficiency . . . accidents caused by mosquitoes, chiggers, other insects . . . poison ivy, oak, sumac

Now—when field operations take your men into mosquito-ridden areas—you can provide them a *proved* safeguard.

Famous Lotshaw's PELLENT, now packaged exclusively by MSco under the Unit System, keeps mosquitoes, chiggers and other insects away for hours.

No more lost time fighting mosquitoes . . . no more swatting around in dangerous quarters . . . no more irritating welts and itching to distract workers.

An application of PELLENT, which lasts at least six hours, *costs less than* 2¢. Workers prefer PELLENT because it is a *cream*, not a liquid . . . doesn't come off easily with perspiration . . . no stickiness . . . pleasant aroma . . . easy to apply, just rub it on.

Protect your workers, too, with MSco Poison Ivy Ointment—the first of its kind in the Unit System—proved in the field with over seven years of case history. Use it as a preventative or a cure.

Be sure your first aid kits are equipped with these MSco field units—PELLENT and Poison Ivy Ointment. See your distributor for complete details, or write for literature.

OUT IN THE OIL FIELDS, along pipe lines—wherever mosquitoes abound—PELLENT is effective longer, gives better protection.

CONSTRUCTION CREWS, lumbermen, others in field operations are safer when protected with PELLENT and MSco Poison Ivy Ointment.

UTILITY WORKERS, railway and highway maintenance crews and other workers do their jobs better, more comfortably with MSco protection.

MSco

Medical Supply Company

In Canada, it's Safety Supply Company

ROCKFORD, ILLINOIS

An Investment in

Ampco* Safety Tools

pays BIG dividends in Fire Prevention

Look for the DANGER SPOTS in your plant — spray booths, inflammable liquid storage areas, etc. It doesn't take much to start a fire there — one that will turn your property into a blazing inferno. That's why a small investment in Ampco Safety Tools is low-cost insurance.

Factory Mutual Laboratories and other safety authorities know that ordinary tools can mean real danger in hazardous locations. That's the reason they approve and recommend Ampco Safety Tools for use in such areas.

More than 400 items — the largest selection of safety tools in the world — make up the Ampco line. There's the right tool for every job in your plant. For lower insurance rates and greater safety order Ampco tools today!

It's easy to choose the right safety tool for your job

For tools subject to impact and/or torque — specify tools of Ampco Metal.

For jobs around acetylene and similar gases — specify Ampco Monel† Tools.

For tools with cutting edges or gripping teeth — specify Ampco beryllium copper Tools.

†T. M. International Nickel Co.

AMPCO METAL, INC.
Dept. NS-8
MILWAUKEE 46, WISCONSIN

AMPCO®

T-7

*Reg. U. S. Pat. Off.

WEST OF THE ROCKIES, IT'S AMPCO BURBANK PLANT, BURBANK, CALIFORNIA • IN CANADA — SAFETY SUPPLY CO., TORONTO, ONTARIO

EMPLOYEE *Acceptance*

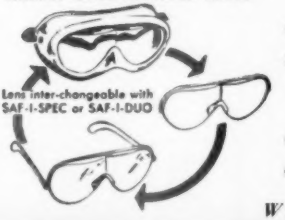
the most important consideration in the selection of *Eye Protection*

No matter what other advantages certain types of eye protection may have for use on a particular job they are unimportant if the product does not have employee acceptance and is not worn consistently.

The *Saf-I-Duo* Rates High in Employee Acceptance

- Velvet soft comfortable VINYL frame fits contour of all faces snugly. Inside edges rolled for more comfort.
- OPTILITE lens is optically correct.
- Four types of ventilation — regular vents, large vents, screen vents and no vents.
- Meets federal specifications for optical qualities and impacts.
- ECONOMICAL—The one piece replaceable lenses cost only a fraction of a dollar each and can be interchanged in a few seconds without the use of tools.
- Can be worn over prescription glasses.
- Maximum protection from impact, dust, fumes, splashes, etc.

WITH ONE PIECE INTER-CHANGEABLE LENS



Write for Literature and Prices.

UNITED STATES SAFETY SERVICE CO.

KANSAS CITY 6, MISSOURI BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

In Canada PARMELEE, LTD. Toronto

Helping You Cut Fire Losses

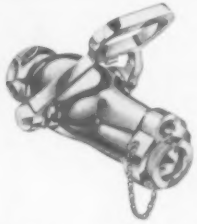
As leading manufacturers of fire fighting equipment, Rockwood makes many products that contribute vitally to the quick extinguishment or effective control of all kinds of fires. On this page are representative Rockwood products that daily play a vital role in fire protection programs throughout the nation.

For further details on these products, and many, many others, write for your free copy of the Rockwood Catalog, "Fire Fighting Products." ROCKWOOD SPRINKLER COMPANY, 72 HARLOW STREET, WORCESTER 5, MASS. Distributors in all principal cities.

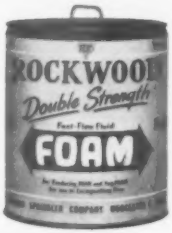
ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

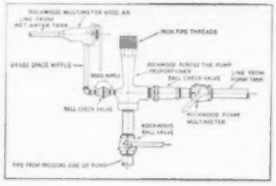


Type SG-48 WaterFOG Nozzle. Easy to handle. Discharges high or low velocity WaterFOG or straight water stream.



Double Strength Foam Liquid for fire hose line Nozzles and permanently piped FogFOAM and FOAM installations.

Type FFF FogFOAM Nozzle. Discharges FogFOAM, Solid FOAM stream, and High Velocity WaterFOG.



Proportioning systems. Used when pressure is maintained by pump. Custom-engineered systems also available.

Foam Eductor. Introduces FOAM liquid into hose lines. Used with Type FFF FogFOAM Nozzles.

High Capacity WaterFOG Nozzle. Quickly controls and extinguishes large fires in buildings and flammable liquids.

Type SG-60 Nozzle with FF Extension Unit. Five different kinds of discharges from only one nozzle.

Hydraulically or Manually Controlled Type FFF FogFOAM Turret Nozzle for airport crash fire fighting trucks and others.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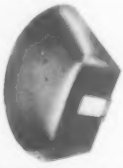
WILLSON-WELD GLASS
• Carefully tested for light transmission and filtering quality
• Trade-marked with exact shade number
• Inspected for surface uniformity and finish
• Conforms to all Federal Specifications for gas and arc welding
• Fits all standard types of goggles and helmets
WILLSON
Dependable Products Since 1870

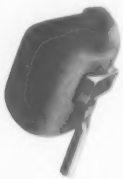
WILLSON Eye Protection For Gas and Arc Welding

Welding Helmet No. 330S
Rivet reinforced for heavy duty; deeply cupped for ample ventilation.

Flip-Front Helmet No. 60S
For quick inspection of work; one-piece, durable fibre shell.



Lightweight Helmet No. 510
Fibre shell fabricated in one piece, extends under chin for added protection.



Welding Handshield No. 8
One piece shell; light weight and proper balance minimize fatigue.

More than 300 Safety Devices Carry This Trademark

WILLSON®

Sold the World over

WILLSON PRODUCTS, INC.
205 Washington St., Reading, Pa.

Chip-Weld Goggle No. DC53
Weld lens lifts up; leaves clear Super-Tough* lens in place for chipping and inspection.

Flash Goggle No. F350L
Spectacle type, with Willsonite Super-Tough lenses; leather bridge curtain.

Cover-All* Goggle No. CW60
With adjustable leather nose bridge; ample room for prescription spectacles.

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For frontal protection during inspection, light gas welding, furnace work or boiler observation.

*T. M. Reg. U. S. Pat. Off.

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TULSA, OKLA.—
Krisman Industrial Supply Co.

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Winnipeg
Edmonton
Vancouver
Halifax

"Do you know the Number?"

Long Distance calls go through faster when you Call by Number

A HELPFUL HINT—Start today to build up a list of out-of-town telephone numbers. Write down those you already know. If there's a new number you don't have—or an old one you've forgotten—be sure to add it to the list when the operator gives it to you.

"You'll save time if you give me the out-of-town number you're calling.

"That way I can put your call through without first calling 'Information' in the distant city.

"Your own call goes through faster. And you help speed the service for everyone. That's especially important now, when so many urgent defense calls are on the Long Distance lines."

BELL TELEPHONE SYSTEM

INLAND 4-WAY SAFETY PLATE

- on your products
- for maintenance and repair
- in new construction

Write for Bulletin F-1

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INLAND STEEL COMPANY • 38 South Dearborn Street, Chicago 3, Illinois

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STOCKED BY LEADING STEEL WAREHOUSES

STONEHOUSE SIGNS For ACCIDENT PREVENTION

Men and Machines

Whether processes involve great batteries of complicated machinery or more simple operations, there are always hazards on the job.

For while modern machines are marvels of efficiency, men and women have to operate them, for machines cannot think.

STONEHOUSE SIGNS

...teach workers to be more careful around machinery; warn them against hazards; and stress the importance of thinking and working safely, to avoid accidents.

Stonehouse complete Catalog features hundreds of different stock-worded Accident Prevention signs. It's free. Special wordings also produced to your specifications.

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SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer
Denver 4, Colorado

"Signs Since 1863"

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

PENOPTIC*

TRADE MARK

INDUSTRIAL LENSES

The highest quality safety lenses and welding lenses are available to you now at less cost. Exceeding all Federal specifications, they are the dependable products of one of America's oldest and most skilled lens makers.

Order Penoptic* Lenses direct from the manufacturer and save with assurance!

Order Direct from

PENNSYLVANIA OPTICAL COMPANY • READING, PA.

Known for Fine Ophthalmic Products Since 1886

*PENOPTIC is the trade name of Pennsylvania Optical Company

for industrial *First Aid*

MERCUROCHROME*

(H. W. & D. BRAND OF MERBROMIN, DIBROMOXYMERCURIFLUORESCEIN-SODIUM)

Do not neglect wounds, however small; even scratches and small cuts may become infected if they are not promptly and properly treated.

'Mercurochrome' (H.W.&D. brand of merbromin, dibromoxymercurifluorescein-sodium) is one of the best antiseptics for first aid use. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association for this purpose.

The 2% aqueous solution is not irritating or toxic in wounds; minor injuries are reported more promptly when 'Mercurochrome' is the routine antiseptic, because treatment is not painful.

'Mercurochrome' solution keeps indefinitely; the color shows where it has been applied.

Physicians have used 'Mercurochrome' for more than 28 years.

Be sure to include 'Mercurochrome' in your first aid supplies.

* Reg. U. S. Pat. Off.

Described in New and Non-official Remedies (1950) by the Council on Pharmacy and Chemistry of the American Medical Association.

HYNSON, WESTCOTT & DUNNING, INC.

H W D **BALTIMORE, MARYLAND**

Made to handle the big ones!

Handling the whopping big loads is a routine assignment for Bethlehem slings. The husky twins shown here (eight-part braided) are hoisting a load weighing better than 200 tons. It's a typical chore for this kind of Bethlehem sling, which is both flexible and very, very strong.

Of course, the braided type is but one of the many that Bethlehem offers. The choice of slings depends on several factors—weight of load, contours of load, material handled, etc. But, whatever style you prefer, we'll make it up for you—single-rope, grommet, braided, bridle, or any other type.

Here's a suggestion: send us your prints, drawings, or sketches showing the kind of handling problem you have in mind. We'll be glad to study the setup and recommend the slings that will do the best job for you.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM WIRE ROPE SLINGS

MAKE THE TOUGH LIFTS EASY

BETHLEHEM STEEL

Amazing ADDED Feature!

BOL TAN

sweat-resistant leather insole

gives HY-TEST Safety Shoes up to TWICE THE WEAR!

ACTUAL WEAR TEST PROVES BOL TAN LEATHER INSOLES

Sweat-Resistant

Here are two insoles from a single pair of shoes worn in a foundry for seven months. The one from the left shoe is a BoL Tan leather insole; the other is a regular quality leather insole.

Note the BoL Tan leather insole is still soft and pliable, shown by cut section lifted for inspection!

The BoL Tan leather insole stays comfortable, permits re-soling when ordinary insole would have failed!

Ordinary insole is cracked, curled, saw-edged . . . dried out and damaged by perspiration attack!

Ordinary insole is unfit for further wear causing discard of shoe long before uppers are worn out.

Only the BoL Tan leather insole resists the damaging attacks of perspiration!

HY-TEST SAFETY SHOES

HY-TEST ANCHOR FLANGE* SAFETY SHOES

*TRADEMARK REG. U. S. PAT. OFF.

The World's Largest Selling Safety Shoe

Division of International Shoe Company, St. Louis 3, Mo.

New York Office: Suite 1708, 225 W. 34th St.

Use this handy coupon for details on HY-TEST's BoL Tan leather insoles.

HY-TEST SAFETY SHOES, Dept. N-8
Division of International Shoe Company
St. Louis 3, Missouri

Please send me free copy of your folder explaining the advantages of BoL Tan leather insoles.

Name.....

Firm.....

Address.....

City.....Zone.....State.....

NATIONAL
SAFETY NEWS

AUGUST 1952

Safety's accomplishments in the large establishments have been impressive . . .

The Smaller Plant . . . Whose Responsibility?

By NED H. DEARBORN

LIKE the weather and like mothers-in-law, safety in the smaller plant as a topic for discussion has become almost an abstraction, something to which we have acquired an automatic, rather than a reasoned, response. When we talk about it, we tend to use perfunctory phrases for second-hand ideas, and we do it because we so seldom change our point of reference on the subject.

That point of reference is, for some of us, the view of the big-company safety man—the fellow who has industrial hygienists, safety inspectors, editors and clerical staff working for him. Others of us see the small plant as a responsibility of the government—of the federal or of the state agencies charged with the protection of the interests of working people. And then there are the professional safety people—like me and the men and women on the staff of the National Safety Council and of the insurance companies and the various associations whose chief work is in the fields of accident and fire prevention—we professional people have a response to the problem of safety in the smaller plant which is, I am afraid, almost cold and clinical.

NED H. DEARBORN

We have so many answers, and so few of these answers seem to be the right ones! We have knowledge—a great deal of knowledge about ways and means of achieving safety—but in the field of accident prevention for the smaller business, knowledge is not power. If it were, we would not have the shocking rates of personal injury.

In the pattern of our American culture there are certain trends or tides or pressures which are typically our own. Such things, for instance, as the independence and self-sufficiency of our women—a phenomenon both startling and appalling to some observers in other parts of the world. So, too, the restlessness of our population. Not just of the upper bracket income people, but of the unskilled worker who raises five children in a four-room house and has enough left over to take the family out to see the country in his summer vacation.

So, too, the American dislike for standing in line, his resentment at being pushed around, his intolerance of attempts to regulate his personal life.

I am not saying that these things are good, or that they are

—To page 40

. . . But the smaller plant's problems present a continuing challenge.

General Petroleum's interest in safety includes its active promotion in the schools. R. L. Minckler, (center) is shown with a kit of driver education devices which the company has made available to secondary schools for years. This truck load was presented to Los Angeles City school system, whose superintendent, Dr. Alexander Stoddard is on the left. Assemblyman Earl Stanley (right) was author of a bill making driver education compulsory in California schools.

The author.

Safety—A REAL

By ROBERT L. MINCKLER

ABOUT 150 years ago an Englishman named Thomas Robert Malthus wrote a book with the uninteresting title of "Essay on the Principle of Population." The central theme of what became known as the Malthusian theory is that population increases more rapidly than the production of food, and therefore the world is condemned forever to exist on the ragged edge of starvation.

Malthus' theory was based upon solid fact, as it was then known. The world is limited in size and cannot be expanded. There is just so much soil in which to raise food. In Malthus' time probably 90 per cent of the people were engaged in agriculture. So with a fixed amount of soil and a fixed amount of labor available, the prospect of increasing production of food was poor. At the same time people were producing children at a rapid rate, compounded as each generation grew to maturity. Put these two facts together—a fixed volume of food and an increasing number of mouths to feed—and the Malthusian prediction is inevitable.

The prediction has come true in most of the world. Most of the people of the world are right at the margin of starvation all the time. But here in America the Malthusian theory has been proved wrong. Less than 10 per cent of our people supply us with more food than we can eat.

About 100 years ago a couple of Germans, Karl Marx and Friedrich Engels, made some predictions about the future economic organization of the world. The central theme of their theory and the basis of their predictions is that the capitalistic system contains within itself the seeds of its own destruction; that the inevitable consequences of capitalism are that the rich get richer and the poor get poorer, that under this system the working man's lot can never be improved, but must stay always at a marginal level of hardship.

Their prediction was that the capitalistic system of economic organization must inevitably give way to a system of governmental ownership and operation of the agencies of production — the socialistic and communistic theory. Most of the world has accepted the views of Marx and Engels and

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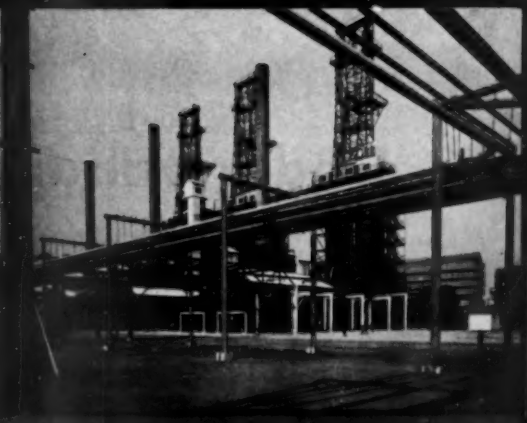
ROBERT L. MINCKLER *is president, General Petroleum Corporation, and president, Western Oil and Gas Association. This article has been adapted from an address before the Los Angeles Chapter, National Safety Council.*



CHALLENGE TO MANAGEMENT

most of the people of the world live under socialistic and communistic forms of economic organization to varying degree.

But here in America the Marxian theory has been proved wrong. We have maintained our capitalistic system and we have accomplished the largest volume and the most widespread distribution of the good things of life to all of the people.

Starting about 100 years ago and continuing up to 50 years ago our country was visited by a great number of Europeans, who told us that our system of political democracy was doomed to result in a low level of standard of living. Their theories were based upon the idea that if we allow the right to vote to remain in the hands of the common people, the result is bound to be that the uninformed and misinformed citizens, who outnumber the capable citizens, would — by their votes — destroy private incentive and private reward, and thus prevent the formation of private capital necessary for the maintenance of a capitalistic system.

Their predictions have come true in most of the world, and most of the people of the world have given up their economic and political liberties, to varying degrees.

But in America erosion of economic and political liberties has been comparatively slight. We have maintained political stability better than in any other country. Private capital formation has continued at a rapid rate, and the standard of living has been maintained at the highest level in the world.

I have given three examples of prophecies of disaster: Disaster in our ability just to live in our economic organization, and in our political organization. Why is it

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Pipe lining is an important part of the oil industry. Building and maintenance of pipe lines has become a safe occupation thanks to constant promotion of accident prevention. In 1951 General Petroleum's pipe line personnel had no disabling injuries.

Understanding the Aging

By LEONARD E. HIMLER, M.D.

Ann Arbor, Mich.

A realistic appraisal of personality problems involving industry and the older worker

THE PROGRESSIVE SHIFT in the age distribution of the population is constantly bringing to the fore industry's responsibility to its aging employees. Management of the special problems of workers between the ages of 45 and 65 is permeated with conflicting opinion, misunderstanding and prejudice. For the individual workers it is in this period when numerous difficulties incident to the process of growing old first make their appearance.

Psychiatrists often refer to the years from 40 to 60 as the presenile period, and 45 is the age at which the so-called involution begins, followed by the development of arteriosclerotic changes in the brain as well as elsewhere in the body sometime during the fifties. Senile mental changes are said to make their appearance by 60 or 65.

In practically every industry the responsible work is being done by men and women over 50, yet the general attitude toward older employees continues to be one of skepticism and under-evaluation. In the face of more evidence to disprove than to support it, the idea persists that after 40 an employee's productivity is usually decreased and that he is too poor an industrial investment to hire or in many instances even keep on the active working force.

This article has been condensed from an address at the Thirty-fourth Annual Meeting of the American Association of Industrial Physicians and Surgeons, Detroit, Mich.

The truth is that there is at present little precise knowledge concerning the significant differences between older and younger workers, and seemingly little appreciation of the fact that older workers vary as much as younger persons. One of the important facts which the science of gerontology teaches is that individual differences in the aged are so great that it would be unsound to base broad policies on chronologic age and apply them arbitrarily.

True enough there are unwelcome traits and personality difficulties which are characteristic of certain older people, but from an industrial viewpoint these need to be no more troublesome or constitute more cause for inefficiency than the types of personality problems found in other age groups, particularly the younger employees. In fact, when all age ranges are properly equated, the greater number of social and personality problems interfering with industrial efficiency tend to cluster around the second and third rather than the fifth and sixth decades.

The personality traits and emotional patterns usually regarded as detrimental are not so much the product of age as the defeatist and antagonistic attitudes with which age is constantly confronted. It is unfortunate that the contributive potentialities of older employees are often still further undermined by their own misconceptions of the aging process.

In order to meet effectively the impact of the aging population upon industry it is particularly important that executives, supervisors, and labor leaders gain greater insight into this tremendous problem area. Greater understanding is necessary not only regarding the normal aging process, but also with regard to the early manifestations of mental illness as they occur in everyday life.

Personality Assets

The compensations which advancing years bring, both physically and mentally, have not been stressed to the degree they deserve. Under normal and more usual circumstances, age brings better judgment, increased skill, fewer mistakes, and greater steadiness, persistence, and dependability in work habits than are generally found in younger employees. These qualities more than compensate for the gradual slowing of speed which is characteristic of age. Older people as a rule possess greater emotional stability, take fewer risks, and have achieved a more comfortable acceptance of their capacities and limitations than is usually found in young people.

Surveys have shown that absenteeism was generally less frequent among the older workers during the period of full employment when large numbers of them were on war jobs. With respect to work injuries during the same period, older workers had a record that is at least as good as and in some respects even better than that for younger workers.

The war experience clearly indicated that in certain very tan-

gible respects older workers held up their end so far as absenteesim, accidents, and the various physical disabilities are concerned. For both sexes the injury frequency rate decreased with increasing age, and the number of medical department visits per person likewise decreased.

Although conclusions based on opinion polls and attitude questionnaires are known to possess considerably fallibility, judging from responses in one such recent survey it is interesting that men over 45 as a group show a consistent and distinct tendency to be more satisfied with their rate of pay, working conditions, bosses, and the treatment which is given to them on the job.

Personality Disorders

It is customary to attempt at least to distinguish between physiological or normal aging and pathological old age, but no reliable criteria for making clear-cut distinctions are as yet available. Ewan Clague, Commissioner of Labor Statistics, U. S. Department of Labor, has suggested a helpful three-fold classification for evaluating the working efficiency of older employees.

There are, first, many old people who retain their full faculties and vigor to an advanced age and can successfully hold a job far beyond the normal time of retirement. Whatever personality change occurs in this group is no more than is normal and is to be expected with advancing age, and far from being a liability, the advantages which age brings in experience and seasoned judgment render these men even more valuable to their employers. This is the group in which ability, not age, should be the deciding factor for retirement.

Secondly, there are older employees who because of some accident, progressive disability, or simple decline in mental powers have a gradually lessened capacity for their previous jobs, but are not thereby rendered immediately unemployable. These employees sometimes present serious problems, since, in spite of their declining adaptability, they continue to possess a high degree of employability for some years. The situation becomes more complicated when the individual's personality difficulty has its onset some time before the retirement age is reached. In many instances suitable concessions to advancing years can be made by the employer without strain or friction.

Often, however, an older worker in this category resists the changes required by his declining efficiency and fights vigorously to retain his position and status on the job. As a result, a vicious cycle is set up in which increased emotional strain further handicaps his failing personality resources. Increased risk of accident, personality clashes, exaggerated physical complaints, compensation neurosis, and impairment of departmental morale are too often the unhappy and costly sequels.

Thirdly, there is the group, actually a minority, which suddenly or over a relatively short time develops a serious mental disability, usually because of some organic nervous system disease such as hypertensive encephalopathy or apoplexy. This may occur at any age after 40, and since the brain damage in this group is irreversible, the individual is rendered permanently unfit for industrial employment. In all such cases, medical and psychiatric diagnosis will be the final criterion of further employability.

Industry is frequently presented with a vexing problem when a

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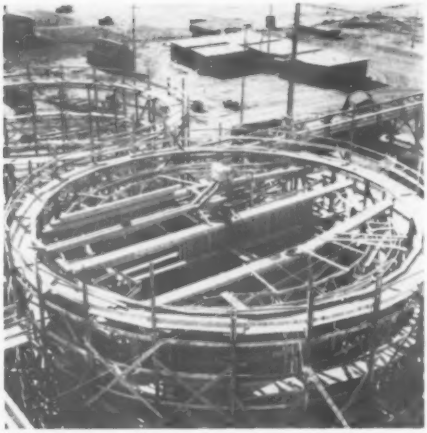
Duncan Bay as seen from top of machine room of new newsprint plant. Steam plant in foreground.



Wood stave tanks during construction. Temporary offices of the project are shown in background.

Divorcing Destruction From Construction

By A. S. KILLICK

IMPREGNATING safety into a plant during its construction is the peak of efficiency. Too often safety effort begins when the bloodstains of the construction men have been removed and the wheels start to turn.

At the newsprint plant at Duncan Bay, Vancouver Island, British Columbia, near the famous Campbell River fishing resort, safety was given a hearing as the shovels began to dig into the earth; it was resolved to set a record low accident rate for this heavy industry and, as far as possible, divorce destruction from construction.

To construct a multi-million dollar plant without the human suffering and serious loss of time and materials caused by accidents is no mean venture, bearing in mind the intensified problems inherent in this phase of industry as compared with those of operating plants. For instance, weather can present difficulties to a plant in production, but during construction the hazards are magnified a hundredfold. This applies also to many other things, such as labor, where the turnover is greater and where due to the distance from labor markets some less skilled workers have to be accepted, with resultant additional problems.

Temporary working conditions and facilities are not conducive to safe operation, and as construction progresses new problems continually arise. And there is the constant pressure to complete work on schedule. These problems were recognized at the outset and accepted as a challenge to prove that it is possible to have safety in construction.

When this article was written, A. S. KILLICK *was safety director for British Columbia Bridge and Dredging Company, Limited, the company whose experience on a large construction project is described here. He is now safety engineer for Kitimat Constructors on the Alcan project at Kitimat, B. C.*

The first problem was to maintain physical hazards at a minimum. One of the greatest difficulties was housekeeping. To solve this problem considerable attention was given to providing adequate space and proper storage of materials and equipment, close attention to safe piling, and good temporary roads. This same "tidy" policy was applied to the plant itself, and as an example during stripping, areas were barricaded off and clearly marked. An adequate labor and trucking force was constantly at work cleaning up and clearing away waste material to the boneyard where it was destroyed. "A clean job" became the byword, and in the words of the company president at the annual dinner "it is the cleanest construction job I have ever seen."

One of the problems during the form stripping was the number of nail-puncture foot injuries. This was aggravated by the use of rubber boots during wet weather. It was felt that in future jobs this could be overcome by the use of laminated steel insoles. Fortunately the first aid department did a fine job on this type of injury and few of the cases caused lost time.

Construction Enemy No. 1—Temporary scaffolds, walkways, ramps, ladders, trestles, etc., require constant attention, including the temporary plank walkways over foundations. Specifications for safe scaffolding were provided to foremen responsible for this work, and regular checks were made to ensure that these specifications were being conformed to.

Temporary fixed ladders and portable ladders were manufactured, inspected and coded on the framing platform, and the regulations were made to prevent the building of these items by the men working on the plant. These were also inspected at frequent intervals and repaired or destroyed as required. As the concrete floors were put into service safety feet were added to the ladders and later portable steel scaffolding was erected and maintained by competent men detailed for this work. Close attention to these details paid dividends both in accidents prevented and time saved.

Routine inspection of construction tools and equipment in use was carried out daily. Included also were the tools ready for issue at the tool crib. Maintaining safe tools for issue from the tool crib created the right attitude on the part of the workers and this, along with spot checks on the job, kept tool failures at a minimum.

It is somewhat elementary to mention machine guarding but in construction this important matter often gets overlooked. So, with the able assistance of the safety committee and the machine shop and carpenters shop, guarding received its full share of attention. Metal guards were used in many cases but quite frequently, because of the short duration, substantial wood guards proved very satisfactory. Handle guards on power buggies were themselves a sound investment and gave the operators a greater feeling of security in confined spaces. Other danger spots such as metal hoists, builders' lines, open holes, overhead work were all clearly marked with signs.

As the building progressed it was evident that the plant designer had given much consideration to safety in the finished product. On the other hand a watchful eye was kept upon the work in progress to circumvent the "built-in hazards," the goal being not only to build the plant safely, but to produce a safe plant for the operating personnel.

This general attack upon physical conditions was accomplished through the vigilance of foremen

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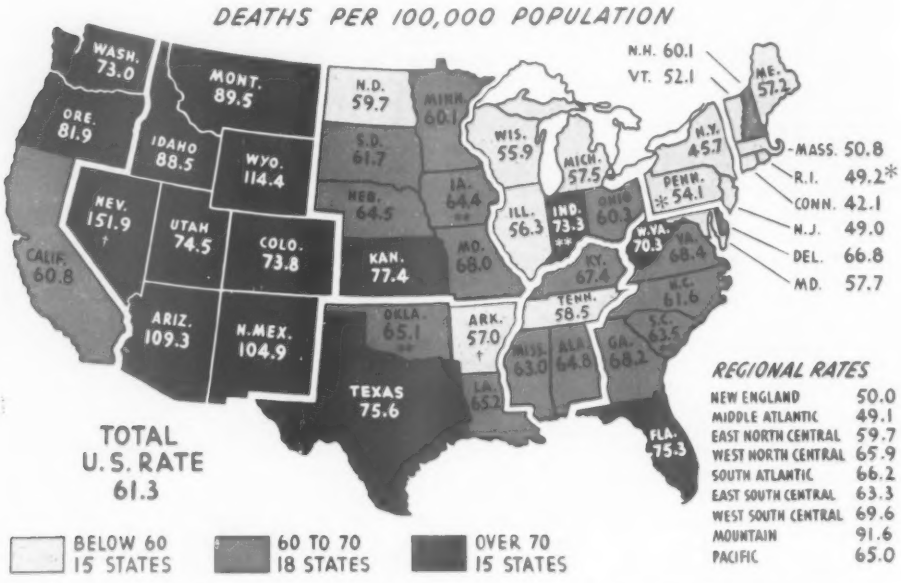
Scaffolding, though temporary, was well built.

Main accident record board at plant entrance.

Fatalities Rise in 1951

Accidental Death Totals 3% Above 1950

By A. D. BATTEY



● Source: Reports from State Health Departments

* 1949 National Office of Vital Statistics data

** Estimate, based on incomplete information

† 1950 based on deaths as reported by the states

ACCIDENTAL DEATH RATES BY STATES, 1951

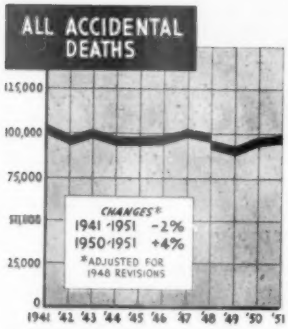
THERE were approximately 94,000 accidental deaths in 1951, an increase of 4,000 from the 1950 total. The 10-year change from 1941, allowing for changes in classification methods, was a decrease of 3 per cent despite the sizable increase in population.

The 1951 accidental death rate was 61.3 per 100,000 population, with no adjustment for changes in the age distribution of the population since 1940. If such adjustment is made, the rate drops to 59.2. The change from 1950 for either rate is a 3 per cent increase.

The 1951 rates are the lowest ever recorded except for 1949 and 1950. Direct comparison with years before 1948 cannot be made because of changes in classification methods, but allowing for those changes, the 1951 crude rate was 27 per cent less than the 1903-07 rate. If deaths from motor-vehicle accidents — which were rare in 1903-07—are omitted, the death rate for other accidents showed a decrease of more than one-half by 1951.

Only one disaster in 1951 caused more than 100 deaths—a coal mine explosion, with 119 fatalities. In accidents resulting in 5 to 100 deaths the 1951 death toll was about 1,700 or 200 more than occurred in such accidents in 1950, according to tabulations of the Metropolitan Life Insurance Company.

A. D. BATTEY is a Senior Statistician, National Safety Council, and editor of ACCIDENT FACTS. This summary of the accident experience of 1951 is based upon Accident Facts — 1952 Edition, the Council's annual compilation of essential information about accidents. This booklet was recently distributed to members.



DEATHS AND DEATH RATES OF WORKERS BY MAJOR INDUSTRIES, 1951

Industrial Group	Total Deaths	Deaths per 100,000 Workers	No. of Workers per Death
Mining, quarrying, oil and gas wells	1,200	129	770
Construction	2,500	93	1,100
Agriculture	4,000	57	1,750
Transportation	1,400	47	2,150
Public Utilities	300	24	4,150
Manufacturing	2,700	17	6,000
Service	2,300	15	6,700
Trade	1,600	13	7,900

Nonfatal injuries in 1951 are estimated at about 9,400,000. Approximately 350,000 of the injuries resulted in some permanent impairment, ranging from the loss of part of a finger to total crippling. The remaining injuries resulted in temporary disability extending beyond the day of the accident, but in many cases to only a few days.

Accidents vs. Disease. Detailed information on deaths from disease is not available for 1951, but it is reasonably certain that accidents held the same position as in 1949. In that year the crude death rate for accidents was approximately 61—the fourth highest rate for any cause. The leading cause was heart disease, with a death rate of 349. Cancer was second, with a rate of 139, and vascular lesions of the central nervous system were third with 101.

Fourteen years earlier, in 1935, pneumonia and nephritis had death rates considerably higher than the accident rate, but by 1949 the pneumonia rate had dropped 61 per cent and the nephritis rate 40 per cent as a result of new medicines and improved medical techniques.

From age 1 to age 35 there were more deaths in 1949 from accidents than any other cause.

The 1949 accident rate for males was higher than that for females—84 compared to 37.

For males, only heart disease with a rate of 417, cancer with a rate of 141 and vascular lesions with a rate of 100 outranked accidents as a cause of death. Among females, also, only three causes had higher death rates than accidents: heart disease, 282; cancer, 136; and vascular lesions, 102.

For males alone accidents were the leading cause of death from age 1 to age 37.

Costs. Accident costs that can be estimated totaled approximately $7,900,000,000 in 1951. Wage loss, including the present, or discounted, value of anticipated future earnings for deaths and permanent total disabilities, was about $2,900,000,000; medical expense, $550,000,000; overhead cost of insurance, $1,000,000,000; property damage in motor-vehicle accidents; $1,400,000,000; property damage in fires, $731,000,000; indirect costs associated with occupational accidents, $1,300,000,000.

Age Distribution. In 1951, as in other years, the lowest accidental death record was for children 5 to 14 years old. The death total was 5,900, and the death rate per 100,000 population was approximately 23. The rate was 4

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TRENDS IN ACCIDENTAL DEATHS, 1950 TO 1951

Table I — By Age

	Total Deaths	Deaths per 100,000 Persons	% Change in Rate from 1950
All Ages	94,000	61.3	+3%
0 to 4 years	8,200	45.9	—1%
5 to 14 years	5,900	23.3	+4%
15 to 24 years	12,700	57.5	+1%
25 to 44 years	22,200	48.7	+7%
45 to 64 years	19,700	63.6	+4%
65 years and over	25,300	198.9	+1%

Table II — By Type

Type of Accident	Total Accidental Deaths	Death Rate per 100,000 Population	% Change in Rate from 1950
Motor-Vehicle	37,300	24.3	+5%
Falls	20,600	13.4	0
Burns	6,500	4.2	0
Drownings	6,500	4.2	+5%
Railroad	3,550	2.3	—4%
Firearms	2,250	1.5	0
Poison gases	1,650	1.1	—8%
Poisons except gas	1,500	1.0	0

Don't Forget

The Experienced Worker

By WILLIAM J. DREELAND

Experience is no guarantee that a man will remain a safe worker. He gets upset by internal and external problems, too

WHEN seeking new help, we prefer the man with experience, the man who can walk in and start to produce with the minimum amount of instruction. He definitely has the advantage over the inexperienced worker and in many cases the advantage over a worker with considerably more formal education, but who lacks the required experience. There is no doubt that because of this experience, this skill, he will become very valuable and a definite asset to efficient production.

This problem of experienced workers is by no means any better now than it was five years ago. A large machine tool manufacturing company in Connecticut has recognized this problem and has gone so far as to show a marked interest in the younger brothers and sisters of experienced employees. He is also interested in the children of employees as a possible source of supply. They have conducted, at their own expense, aptitude and various other tests as a guide to these prospective employees for specific types of schooling that they are best suited for. This is a different approach to an acute problem, as most employers give infinitely less thought to getting and training the right man than they do to buying the right machinery.

Just how valuable this experience is to us who deal in safety may be a different matter. Experience is no guarantee that an individual is a safe worker and can fit into a well organized safety program. Accidents do not respect experience as our records, graphs and statistics so ably portray.

The same basic principles of safety apply to the experienced worker as well as the inexperienced worker. In fact, in some respects more so, for the experienced worker if properly indoctrinated to a good safety program will have no patience or interest in any "off again—on again" program that we are all guilty of. If he forms the opinion that your safety activity is just a series of safety lectures after every serious accident instead of a well organized permanent function, you have done much to destroy his faith in you and your safety organization. Therefore we cannot relax our efforts toward the experienced and concentrate on the inexperienced.

We all know that despite the efforts of our safety engineers, the full cooperation of personnel, and abiding by all the safe practices and procedures that we preach, conforming to the suggestions of insurance companies and complying with the directives of the Department of Labor, we are still the victims of accidents. We still hear that old familiar phrase "Can't understand it, he worked here 20 years and never got hurt until now."

If we do have a good safety organization, and let us assume that we do, then perhaps we should devote more time to our cause analysis and get away from this "Cause Undetermined" attitude.

I can't help but feel that of all the complicated machines in use today, man is still the most intricate, that perhaps we do not fully understand what makes him "tick" and that we should give him further study as an individual. Basic psychology of today tells us that man spends his life fulfilling his needs. The needs that men encounter are of many kinds; however, they may be divided into two groups—the *physiological or bodily* and the *intellectual or social* needs.

The basic bodily needs include oxygen, water and food. All of these elements are necessary for life. It can be said that we are driven to fulfill these needs unconsciously or instinctively.

On the other hand, the intellectual or social needs are acquired. We have developed their necessities and learned how to fulfill them. These needs are the ones that we are concerned with. When a man's needs are so adjusted that the strongest and most powerful ones are satisfied by the job that he is doing, we still have no great problem as far as our worker is concerned. The ones we should be concerned with is the one who has not been able to satisfy these needs.

Frustration of a powerful need may lead to anger, depression, anxiety or inefficiency. We, as human beings, are literally pushed through life by a constant series

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WILLIAM J. DREELAND is Senior Factory Inspector, Division of Industrial Safety Service, New York State Department of Labor, New York City. This article has been adapted from a paper presented at the 22nd Annual Convention, Greater New York Safety Council.

of drives which impel us to do this, that and the other thing. While these drives are not impeded, we go through life as rational, good natured individuals. On the other hand, if the drive is blocked we get varied responses, depending upon the individual.

For example, the golfer who wraps his club around a tree after missing a shot, the individual who kicks the cat or barks at his wife when something goes wrong, or even inflicts bodily injury by beating his head against a wall. These are all minor responses that we may have. In most cases these blocks are eventually circumvented by devious means and we become amiable human beings again.

The wife who has a powerful drive for a fur coat and goes out and buys a new hat has temporarily circumvented the original drive, thereby making your existence almost bearable. These drives are a constant, apparently never ending process, and can become very complicated and serious, especially when an individual is being driven by several drives with blocks that appear to be impossible to circumvent or clear away. These serious blocks, either developed at work or outside (and 9 times out of 10 will be developed outside and have no connection with the job performed) help to develop our "problem child" in a safety program.

At this point you might easily form the opinion that these are conditions beyond your scope, that anything beyond the confines of the factory or plant are none of your concern. Also, that if anything could be done it might be a problem for the personnel department. This is true, but today the average personnel department has all it can do to keep up with the paper work that is required for such items as withholding tax, social security, disability, hospitalization plans and many other time-consuming details.

This condition, plus the normal reluctance of some employees to bother the front office with their

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Six Railroads Win National Safety Award

SIX CLASS I railroads, named group winners of the Railroad Employees' National Safety Award of the National Safety Council, had a 1951 employee casualty rate 56 per cent less than the average rate for all Class I railroads.

The combined rate of employees killed and injured per million man-hours worked was 3.43 for the six winners, as compared with a 1951 rate of 7.88 for all Class I railroads. (Class I railroads are those whose operating revenues exceed $1,000,000 annually.)

The six Class I winners and their rates follow:

Union Pacific Railroad Co. won first place among railroads whose employees worked 50,000,000 or more man-hours in 1951. Its total accident rate was 3.40, as compared with an average of 7.01 for all railroads in this group.

The Pennsylvania Railroad Co. (Altoona Works) was winner in the 20,000,000 to 50,000,000 man-hours group. It rate was 3.45, as compared with 6.31 for all railroads in the group.

The Nashville, Chattanooga & St. Louis Railway won first place in the 8,000,000 to 20,000,000 man-hours group. Its rate was 3.65, as compared with an average of 9.47 for the group.

Pennsylvania-Reading Seashore Lines was winner in the 3,000,000 to 8,000,000 man-hours group, with a rate of 4.66 as compared with a group average of 11.90.

Missouri-Illinois Railroad Co. was first in the 1,000,000 to 3,000,000 man-hours group. Its rate of 1.68 compares with a rate of 12.84 for all railroads in this group.

The Colorado & Wyoming Railway Co. won in the group whose employees worked less than 1,000,000 man-hours, with a rate of .99 as compared with a group average of 14.87.

For winning first place in employee safety during 1951 among the nation's largest railroads, Union Pacific was honored at a Chicago luncheon when Ned H. Dearborn, left, National Safety Council president, presented his organization's award to P. J. Lynch, U. P. operating vice-president. In scoring the lowest accident rate among Class I roads for the nineteenth time in the past 29 years, Union Pacific with a total of 112,596,000 man-hours worked scored 3.40 casualties per million.

In other divisions of the contest, winners were: Among divisions of the *Pullman Co.*, operations in the Republic of Mexico had the best record among Pullman operating regions, while among its shop units, the Wilmington, Del., shop was the winner.

Among the switching and terminal railroads (those not engaged in line-haul operations), *The Cleveland Union Terminals Co.* was winner in the group whose employees worked more than 1,500,000 man-hours. *The River Terminal Railway Co.* of Cleveland had the best record among the roads working less than that amount in 1951.

Although deaths went up slightly in 1951 under pressure of the defense effort, the total still was the second lowest in the history of modern railroading.

QUEER DUCK

(Fiction)

By BILL ANDREWS

August 4, 1952

THE MAN was obviously sincere. In an interview two weeks ago he outlined quite calmly the effect of the fumes of the cutting oil upon his health. There was stomach discomfort, smarting of the eyes, weakness, and skin irritation.

"There's no rash," he said, "but there is a prickling sensation all up and down the forearm. Sometimes at night the arm swells, but it is all right in the morning."

I told him I'd look into it, and I made an appointment for him to have a checkup.

He nodded gravely at my suggestions. "I wish you'd get on it right away. Something is very wrong with the cutting oil. It's poisoning me, slowly, by inches. There must be something that can be done." He walked out of the office with a worried look.

I did the job myself. I went to his machine and watched him work. I took a sample of the cutting oil, and gave it to Doc Moller for analysis. I got the man's personnel record with the report of his original physical examination. I looked up what limited literature I had on allergies and toxic fumes. And later in the day I had the report of the doctor on his present physical condition.

The results were all negative. The oil was perfectly good. There were no complaints from other men about it. The symptoms the man reported fitted no allergic or poisoning pattern. The man's entrance physical exam reported nothing that could be connected with his complaint. I checked his former employer and found that he had had a good attendance record, no compensation claims.

But the boss he had worked for before coming to us six months ago said, "One thing—he was a little edgy his last couple of months with us. He got into some sort of row with a man in his department. Accused him of picking on him. There was no fight, but there was a lot of tension over it. As near as I can make out, he didn't have any basis for his beef—but he thought he did, and I think he thought I was siding with the other guy when I poo-poohed his complaints."

I called in the man's present foreman. "Queer duck," he said. "Good worker, or at least a hard worker. Sometimes looks like he's fighting the machine. Doesn't mix much with the men. Eats by himself, doesn't seem to want to talk or kid around. He's got a reputation of being conceited and standoffish, but it isn't really that. He's very sensitive. Tries hard to ingratiate himself with me, and if I push him off, he looks as if he's going to cry. Oh, yes, he thinks Bill Brown is picking on him. Accused him last week of deliberately messing up some work. It didn't make sense. Bill's a big blow, and a kidder, but he doesn't pick on weaklings, and he sizes this guy up as just that."

I called the man in again, and told him very gently what I had learned. He nodded, very wisely, and said, "I was afraid of this."

"Afraid of what?" I asked.

"That you were in with *them*," he said, his voice hard and stern.

"What do you mean, I'm in with them?" I asked.

He smiled. "Now look, Mr. Safety Man, let's not pretend any more. Bill Brown's trying to drive me out of the shop. The men like him. The foreman likes him. They don't like me, and I think I know

why. Bill's turned them against me. So somebody's putting something in that cutting oil to break me down, and you and the chemist and the doctor are just pretending everything's all right when you know it isn't."

I got sore then, and though I held back, I put it to him pretty hard that I was with Jackson-Barnes to prevent accidents and occupational disease, and that I didn't like being accused of betraying my responsibility to take sides in a petty departmental squabble.

He smiled again, as I talked, and said, "You would have to say that, of course. But I know that that cutting oil is bad, and I want something done about it. Your talk is cheap, mister, but I want some results. I'm going to get them, too. I have friends around town and in Springfield, and if you don't take steps, there'll be a scandal about this that will just about break this company."

After he left, I tried to put together the pieces of the puzzle. I was just about sure of my ground, but I decided to do some double checking. I could, of course, transfer the man, on the assumption that either there was some allergy we couldn't spot or that there was a personal situation between the man and Bill Brown that would be solved by removal.

But the symptoms weren't allergic. If they were anything, they were indicators of a toxic condition. One thought that occurred to me was that I had on my hands a malingerer who was building a compensation claim by rather more complicated methods than the usual. But that didn't fit the pattern either. A malingerer would have played for my sympathy, not accused me of conspiracy.

Then a thought occurred to me that scared me. I remembered that a year or two ago there had been a murder in the plant, faked to look like an accident, and that the plant social worker had accidentally turned up the clue that exposed it. So I went to see our social worker. She had no data on the family that wasn't on the personnel record, but she volunteered to visit the man's wife. She was, I think, quite excited with the prospect of taking part in the exploration of another mystery. I think she scented slow arsenic poisoning in the offing.

Her report, delivered the next day, was a blank. The man's wife was worried about her husband's health. She was a mousy, nervous little woman with two children. The home was neat, the children looked well fed and clean. Not a sign of anything wrong.

While I was reading the report, the man came in, angry in a cold, determined way. "I understand you've been sending snoopers around my house," he said. "Well, you won't get anything on me, unless you fake something. We've had real snoopers try before. Why don't you talk to the Williamses next door? They've been trying to trap us for years, and they'll tell you how hopeless it is to try."

This left me completely confused. So, for lack of a better idea, I did go to see the Williamses that evening. Williams turned out to be a good natured, hearty garage mechanic. His comments were, "Oh, the guy's all right, I guess. A little screwy, but harmless. He got the idea we were sending the kids over to spy on him—you know how kids are, always running into other's people's yards. He came out yelling at them once, waving a big stick, and scared the daylights out of the kids. I tried to talk to him afterwards, but he just put on that he thought I had it in for him, so I told him to keep his hands off my kids, and I told the kids to stay off his property. We haven't been exactly friendly since, but there's been no trouble. Just don't talk to each other."

Eventually, I went to see Mac, our personnel man, with the idea of trying to arrange a transfer for the guy to some other work. I didn't think it would do much good, but I didn't feel like dumping a man just because he had some funny ideas.

Mac heard the story out, looking glummer and glummer. "I don't like it," he said. "I don't like it at all."

"What don't you like?" I asked.

"The whole picture. The whole

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The Electrical Engineer's Stake in Safety

By HAROLD F. WEBB

His knowledge of safety and his personal interest may have a far-reaching influence. And among the lives he saves may be his own.

ONE HAS ONLY to sit at the receiving end of what seems to be an unending flow of accidents for a few years to realize that here is a problem requiring the unified efforts of many people. The accident situation, as it applies to the electric industry, is far from good.

The Edison Electric Institute has long been interested in the prevention of accidents; in fact, a committee composed of safety experts was formed by Edison Electric Institute's predecessor organization, National Electric Light Association. So, it may be seen that a study of the accident problem and development of safety standards and practices has gone on for years.

The present Accident Prevention Committee, of which I am a member, is doing a worth-while job of developing standard safe work procedures; verifying reputed safety features in electrical apparatus and equipment; experimenting with various safety devices such as rubber line goods, gloves, sleeves, tools, etc., to determine the safety factors; conducting research on artificial respiration methods; providing educational programs and analyzing reports from 222 member companies for determining the cause and cure of accidents.

To illustrate some of the results coming from Committee work here is one example: the Committee was able to determine that 70 per cent of the fatal accidents were caused by electric shock and burns; that a large percentage of these cases occurred during the hot summer months and that most of these contact cases involved the upper body extremities.

From such information safety work was redoubled in providing safer work methods, taking extra precautions during hot weather and in use of more protective equipment on arms and shoulders. The Committee work all sums up to the development of a program aimed at reducing the risk by education and protection.

If there could be any question about the need for safety work, let's take a look at the record! During the past eleven years 1,456 electric utilities employes have lost their lives in service and 70 per cent of these accidents were caused by electric shock and burns. Last year, the number of fatal accidents rose to a high level of 151 which is 19 greater than the eleven-year average. Aside from this tragic record 6,518 accident cases were sufficiently painful to cause loss of time; 225 resulted in permanent partial disability and 4 cases brought permanent total disability.

Besides this unhappy record, the National Safety Council reports that an average of 875 deaths occur each year from accidental contacts with live lines and equipment. This means that 624 people met death from this source outside of the electric utility industry. There seems little doubt that your Committee on Safety must be as concerned with this problem as the Accident Prevention Committee, Edison Electric Institute and, in fact, similar industrial safety committees. No single conclusion can be reached as to the cause of these tragic accidents, but we know from unbiased analysis of many accidents that human failure is largely responsible.

This statement brings me to the main point of this discussion "What is the electrical engineers'

Since 1924 HAROLD F. WEBB *has been General Safety Director, West Penn Power Company, Pittsburgh, Pa., and in that time has served the cause of safety in many capacities. He is a former general chairman of the Public Utilities Section, NSC, and a past president of the Veterans of Safety. He is currently chairman of the Regional Action Committee, Edison Electric Institute. This article has been condensed from a paper presented at the Summer General Meeting of the American Institute of Electrical Engineers, Minneapolis, June 25, 1952.*

stake in safety, and what can he do to improve the accident situation?" Answering this question is relatively simple. Obviously, any lack of personal interest in safety, whether the engineer be attached to the manufacturing, design or operating end of the business, may have a far-reaching effect on an innocent victim of his error. It may even result in loss of his own life.

Quite recently an electrical engineer was experimenting with a TV receiving set in the basement of his home. His shirt was wet, and when he leaned over the rig his chest contacted 4-115 volt terminals. He was electrocuted. He must have known that his body resistance to the flow of electric current was lowered by the sweaty condition, but apparently absorption in the problem caused him to forget that electricity will kill under such conditions. It did!

Let me pursue this subject further by recalling a recent meeting where I listened to an ardent safety expert denounce the way some equipment manufacturers are skimping in design and materials in order to compete in a highly competitive trade. I don't believe such an attitude is typical of safety men. From my knowledge and experience, manufacturers are doing a pretty good job at improving electrical apparatus and equipment and seem to be keeping a keen eye on the inclusion of reasonable safety factors in their designs.

The point I want to make is that if any electrical designers are careless in specifying the protective values which electrical apparatus should contain, the ultimate users may be flirting with serious injury or death. The impact of faulty design may carry far beyond drafting tables, beyond the manufacturers assembly line, and to a far distant point of failure where the accident might seriously involve the other fellow.

A fine article was recently written jointly by Messrs. L. G. Smith and J. F. Hennessey, of Consolidated Gas, Electric Light and Power Company, Baltimore, and published in May 19, 1952, issue *Electrical World*. I shall take the liberty of quoting from this paper on the subject, "Pole Skimping May Save Money But Cost Accidents."

"Distribution engineers can and have contributed to accidents, including fatalities. The designer cannot shrug his shoulders and blame all accidents on field supervision and human errors. In proof of this, consider the causes of accidents which may be analyzed functionally as follows:

1. Unsafe Design—the function of the designer.
2. Human Errors and Carelessness—the function of the individual.
3. Unsafe and Inadequate Procedures and Tools—the function of supervision.

"While most accidents involve all three of the above functions, usually one predominates. Fatalities in the electric light and power industry suggest either unsafe design or poor construction in the field. A few dollars for longer crossarms, for better equipment, for junction boxes with more adequate clearances, for roomier manholes may represent several hundred thousand dollars in the transmission and distribution system investment of millions.

* * * * * * *

There is no limit to the good a man can do, if he doesn't care who gets the credit.

* * * * * * *

"Compare this with the cost of accidents. Moreover, most of the items of design that make for safety also result in improved efficiency, fewer service outages, and quicker restoration of service to the consumer.

"Safe design in overhead construction centers around the following features:

1. A simple pole-top layout of which the components, connections and functions are readily understood by the lineman on the pole and the foreman on the ground.
2. Equipment of safe design, adequate capacity, readily accessible and easily and safely operated.
3. Ample working space.
4. Absence of "booby traps."
5. Adequate climbing space that is readily discerned from the ground.
6. Repetitious conditions throughout the system."

The article, as you have noted, points out that "while most accidents involve all three given functions, unsafe design, human errors, unsafe and inadequate procedures and tools, usually one predominates." Our analysis shows that the predominant cause of accidents is "human failure." This is a challenge to us to do a better job of safety education with all supervisors and workers. It is also true, however, that many accidents involve faulty design or unsafe practices. These are things of great concern to the engineer, whether he be a designer or an executive.

Many electrical engineers, due to personal characteristics and technical capabilities, have risen to important executive positions. Time will provide such openings for the younger professional men. At this moment younger people are trying to prove their fitness to eventually wear the empty shoes of some important personage.

The important thing to realize is that the key to the ultimate solution of this accident problem is in the hands of supervision. It begins with enthusiastic support of top supervision and carries on down the line to the rank-in-file employees. These are the people, generally speaking, who get hurt. They are frequently injured through a lack of adequate safety supervision; through failure of a technically minded supervisor engineer to explain what is to be done in "Barnyard English," through failure to properly size up the job, and in other ways that could be laid at the doorstep of supervision.

Electrical engineers who are now or will become supervisors must realize that their job is not alone a job of putting theories to work. They must be genuinely interested in all who work for them. Safety cannot be divorced from any supervisory job.

When Andrew Carnegie was

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After the Accident

By ARTHUR J. NAQUIN

Adequate investigation procedure indicates that the company's safety program is also functioning in other ways

INVESTIGATION of mishaps which have resulted in personal injury is probably as old as man's intelligence and curiosity. It is one of the many human behaviors that illustrate the process of "locking the stable door after the horse has been stolen." It is an exemplification of the social consciousness of mankind in that an obligation is felt to try and do something to prevent a recurrence of injury causing mishaps.

Accident investigation in industry is an important technique that has contributed a great deal to the present day control of employe injuries, and much has been written on the subject.

What We Already Know

If a bibliography could be compiled of all that has ever been written about accident investigation, it would probably astound even the most informed professional safety engineers. Modern literature on the subject can be dated around the beginning of World War II and the procedures recommended by Heinrich, Blake, Berman & McCrone, and the National Safety Council (see footnote) are all in substantial agreement. •

It is not the purpose of this presentation to laboriously compile all the points hitherto stressed by such authors into an over-all treatise. To be truly informed one must contemplate all the facets of individual experience that are presented by a host of authors. If there is an urgency to study the basic facts on the subject of Accident Prevention, then a study of the National Safety Council's Safe Practices Pamphlet No. 56 "*Investigation of Industrial Accidents*, is recommended.

Accident Investigation Attitude

Enactment of Workmen's Compensation Laws removed a great obstacle in the path of accurate and worthwhile accident investigation. When it no longer became necessary to resolve each mishap into a great debate as to who was to blame in order to determine the extent of legal compensation, then an opportunity was created for a sincere and trustworthy exchange of information as to how and why an employee was hurt. Though compensation is no longer a point at issue, improperly administered disciplinary action can stifle the willingness of employees to tell all they know about the causes of individual employee injuries.

Those in a supervisory capacity must show over a long period of time that it is not their purpose to blame, ridicule, condemn or punish those who are accidentally hurt in industry. Instead, foremen, supervisors, superintendents and other management representatives must stress to all company members the group safety promoted through a more searching investigation of what went wrong.

Who Should Investigate

For industry in general it is certainly true that the effectiveness of an employee accident prevention program in any given mill, factory, plant or establishment is quite proportional to the over-all extent to which every employee consciously strives to avoid getting hurt or hurting someone. Safety mindedness is not noticeably inherited by human beings; it must be planted and nurtured, and every agency of instruction should be employed to teach the basic causes of accidents. Systematic accident investigation is a very effective mode of instruction and, therefore, it follows that the greater the number who participate in accident investigation work, the greater will be the probability that the frequency of accidents will be reduced.

This is a practical limit to the number who can participate in

1. H. W. Heinrich, *Industrial Accident Prevention*, 3rd Edition, Chapter 4.

2. Roland P. Blake, *Industrial Safety*, Chapter X.

3. H. H. Berman and H. W. McCrone, *Applied Safety Engineering*, Chapters III and IV.

4. National Safety Council, *Accident Prevention Manual*, Part XIV; Safe Practices Pamphlet No. 56, *Investigation of Industrial Accidents*.

ARTHUR J. NAQUIN is Safety Counselor, New Orleans Public Service Inc.

any individual investigation. Experience recommends that a committee of three consisting of an injured's co-worker, his foreman and his safety committee chairman are a well balanced group. Injuries resulting from mishaps in highly technological or involved processes may require the investigative abilities of trained experts.

For example, a coal mine explosion, an airplane disaster or the rupture of a high temperature-high pressure steam main. Injuries resulting from such sensational process or equipment failures injure relatively few people. For the great bulk of injuries brought about by some mechanical, personal or combination caused accident, a small "grass roots" investigating committee is preferable, and investigating committee membership should be rotated as much as possible.

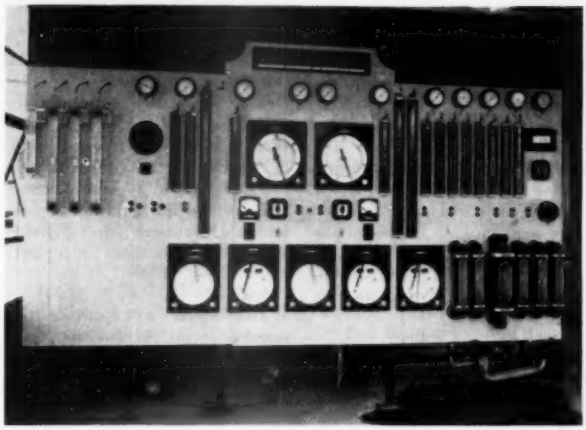
What Injuries Should be Investigated

Every cut, puncture, tear or abrasion of the skin surface; every bruise, sprain, strain or entry of a foreign particle into the body implies that the more serious consequences of the injury-causing accident might have resulted in death. The importance of an accident cannot be gauged by the degree of seriousness of the resulting injury. Therefore, it is a false generalization to say that only disabling accidents should be dignified by an investigation.

The techniques of accident investigation can be learned best only through doing. Therefore, it is recommended that at least one person be assigned the responsibility of finding out why someone "nicked his finger" or "tripped and fell." While it may be perfectly true that the injured knows full well what caused him to get hurt, his sole possession of a clue as to the cause of a minor injury may prevent the institution of desirable corrective measures before someone else is more seriously injured from the same cause.

All injuries should be investigated in order that the supervisory machinery for instituting needed corrective action may be set in motion.

It Does Everything But Punch the Time Clock



A control panel that allows one-man operation of an entire manufacturing process and holds a centralized safety system is featured at the Borden Company's new chemical plant in Demopolis, Alabama. In addition to all indicators and controls for the production of formaldehyde, the panel pictured above has "tell-tale" lights and horn signals that warn of abnormal conditions before the danger point is approached.

Training of Investigators

To those uninformed as to the basic causes of accidents, it will often seem that an employee injury is just "one of those things." The expression signifies inexperience in using the senses of sight, feel, taste, smell and hearing in order to ferret out unsafe acts of persons or the physical or mechanical hazards created by the unsafe acts of persons.

The American Standards Association Accident Cause Code (Z16.2 of 1941) is readily understood by employees to whom this formal classification is explained. Its knowledge is very helpful to those assigned to do accident investigation work in that it gives them a sense of direction when they start out to learn how and why a person was hurt. It is, therefore, advisable that members of safety committees and accident investigation committees be furnished with at least an extract of Z16.2's provisions.

In Conclusion

To the degree that accident investigation is approved, studied, used and evaluated in any unit of American industry so will the importance attached to it by management be made known.

The institution of adequate accident investigation procedures will label the safety program in any given company or organization as probably being effective, for where you find good accident investigation so may you expect to find sincere management interest and leadership in safety, sincere encouragement of safety suggestions, adequate expenditure of funds to eliminate hazards, adequate administration of safety training, and affirmative company-wide participation in the over-all safety program.

It leads to greater efficiency in industry, better employee relations, better public relations and enhances the security of individuals, firms, companies, corporations and the nation. It leads to less suffering and death. It leads mankind a little closer to the stars.

Five Big Days for Safety

. . . . October 20 to 24, 1952

GALLEY PROOFS for the program of the 40th National Safety Congress and Exposition, just received from the printer, indicate that the line-up of subjects and speakers for some 200 meetings is nearing completion. Only a few scattered spots are tagged "Speaker to be announced." Copies of the preliminary edition of the Congress Program will be mailed to members during the latter part of August.

* * *

Thirty-one sections of the National Safety Council, representing specialized interests in industrial and public safety have planned programs. In addition, the Farm, Home and Women's Divisions will hold sessions and other activities.

This year the organization of a new section is being planned. The fertilizer industry, previously represented in the Chemical Section, feels that its accident problems are sufficiently serious and specialized to warrant the formation of a section. At a recent meeting in White Sulphur Springs, West Va., the Fertilizer Industry Safety Committee worked out final details to secure Council acceptance.

* * *

The American Society of Safety Engineers, in addition to holding its Annual Meeting, is sponsoring eight subject sessions devoted to topics of fundamental importance to industrial safety.

* * *

Among the demonstrations scheduled for Congress meetings will be one of methods of repairing a broken gas main by a crew from the Public Service Company of Northern Illinois. Procedure includes methods of isolating the damaged section and repairing the break without interrupting service to customers.

At this session, Dr. Archer S. Gordon of the University of Illinois will present a "Critical Survey of Artificial Respiration." Dr. Gordon is well known for his work in developing the arm-lift-back pressure method of resuscitation. This method has gained wide acceptance although the Schafer method still has many advocates.

* * *

Five hotels will provide the meeting rooms for sessions: Conrad Hilton, Congress, Morrison, LaSalle and Sheraton. Registration and information desks will be located in these hotels. Following are the assignments: for the various general and sectional meetings:

Conrad Hilton — Annual Meeting, Banquet, Early Morning Sessions, Aeronautical, Air Transport, Cement and Quarry, Coal Mining, Construction, Electrical Equipment, Industrial Nursing, Metals, Mining, Petroleum, Printing and Publishing, Public Employee, Home, ASSE Annual Meeting, Subject Sessions.

Congress—Automotive and Machine Shop, Glass and Ceramics, Meat Packing, Tanning and Leather; Power Press and Forging; Textile, Traffic, Wood Products.

* * * * * * * *

Those who plan to attend the Congress but have not yet made reservations should do so as soon as possible. At the time of going to press, practically all available rooms in Loop hotels had been reserved. Reservation blanks have been mailed to members and use of these will facilitate handling requests. All inquiries should be addressed to Congress Housing Bureau, National Safety Council, 425 North Michigan Avenue, Chicago 11.

Morrison—Food, Marine, Railroad, School and College.

LaSalle — Commercial Vehicle, Transit, Farm.

Sheraton — Chemical, Public Utilities, Pulp and Paper, Rubber.

* * *

Prominent speakers have accepted invitations for two prominent spots on the program. The Banquet will be addressed by the Honorable Luther W. Youngdahl, Judge of the United States District Court for the District of Columbia and formerly governor of Minnesota. A featured speaker at the Annual Council Meeting will be Jesse W. Randahl, president of the Travelers Insurance Company, Hartford, Conn.

* * *

The entire Safety Exposition will be housed in the Conrad Hilton Hotel. Here an amazing variety of products and services for accident prevention, fire protection, occupational hygiene and first aid will be on display. Because of an extensive remodelling program, exhibit space will not be available at the Congress Hotel this year, although there will be no interruption of service to meetings and guests. In addition to the Exhibit Hall on the lower lobby of the Hilton, the Normandy Lounge has been secured, also additional space on the third floor.

* * *

Every woman attending the Congress as a delegate or wife of a delegate is invited to attend the reception for women Monday afternoon from 3:00 to 5:30. The reception this year will be held in the ballroom of the Lake Shore Club overlooking Lake Michigan. In addition to the reception and musicale, the afternoon will feature the presentation of the winners of the Carol Lane Award.

The SAFETY VALVE

Want to Quit?

QUITTING SMOKING is a popular project. Those who have tried it, successfully or otherwise, have their own pet schemes, ranging from chewing something to make tobacco taste lousy to various ways of keeping mind, fingers and mouth too busy to reach for a fag.

Books have been writtten on the subject, the most recent being by a chap named Herbert Brean, who, I understand, has done rather well on the royalties.

Brean, a reformed addict, has a unique approach to the subject. He gets lyrical about the pleasures of inhaling. The doctors, he says, are not all convinced about the health hazard. So why quit?

Even after being off the stuff for 20 years I almost dashed to the drug store to get a pack of coffin nails, a tin of cut plug, and a fistfull of stogies.

Then Brean changes the record. He lists the advantages of *not* smoking, and it's impressive. No unpleasant aftertaste, no feeling of panic at being caught without smokes, keener enjoyment of food, a feeling of freedom, etc. I decided I really didn't want to smoke, after all.

Herb recommends that you memorize the list and go over it whenever the craving threatens to undermine your noble resolve. And quit ostentatiously. Tell the world about it—even if you become a pest. The fear of ridicule helps to keep you on the straight and narrow.

Don't try to reform too radically all at once, he warns. Baby yourself. If bottled-in-bond has been part of your diet, don't go on the wagon simultaneously. Enjoy your favorite foods and don't worry about added pounds.

Just a word from personal experience—don't think you're cured because you haven't indulged for a week or even a month. The second month is harder than the first. But if you can hold out a year you'll find yourself forgetting about it for an hour at a time.

Brean makes effective use of the well-known power of suggestion. You can hypnotize yourself into believing that you don't want to smoke. Probably the same method would work in quitting chewing or snuff dipping.

One thing has me curious: Among all the people who worked on the book—editors, compositors, proofreaders, and book reviewers—how many were induced to quit? And how many stayed with it?

When Men Go Stale

MANY A KEY MAN goes stale long before he is due to retire. Sometimes he's through; more often the condition is temporary and curable.

There are many symptoms of slipping. A man is habitually absent from the office. He finds it difficult to make decisions. He grows inclined to live in the past. He blows his top over minor irritations. And one writer has included among the danger signals an exceptional interest in outside activities—clubs, politics, associations.

Causes are numerous and often obscure. They include boredom or discontent with the job, domestic trouble, a weakness for the races or ball games, and the climacteric. Habitual overeating at lunch and poor ventilation in the office shouldn't be overlooked.

The trouble may require the services of an M.D., a psychologist, or perhaps a clergyman.

I can't believe, though, that the men who are doing all the splendid volunteer work of the National Safety Council and other organizations, and who serve in public office are doing it merely to escape from their jobs. A lot of them are serving their companies well, too.

In This Issue . . .

NO SAFETY CONFERENCE is complete these days without a discussion of the problems of smaller business. Here is an appraisal of the subject and some promising avenues of cooperation as outlined by Ned Dearborn before the recent President's Conference on Industrial Safety. Single copies of Mr. Dearborn's address will be mailed without charge on request. (Page 19).

* * *

"It works and it pays." That summarizes the accident prevention experience of General Petroleum Corp. as expressed by its safety-minded president, Robert L. Minckler. (Page 20).

* * *

The aging person does present problems on many jobs but some of the difficulties are imaginary and others could be reduced by a better understanding of the physical, mental and emotional changes involved in growing old. Dr. Leonard E. Himler offers some realistic suggestions to those who are confronted with these problems. (Page 22).

* * *

There is little reason for satisfaction in the accident fatality experience of 1951 as shown in the 1952 edition of *American Facts*, copies of which are now in the hands of members. Highlights of the year's experience are presented in a summary by A. D. Battey. (Page 26).

Carman Fish

Steps That Conserve Hearing

Long-range noise abatement program at Allis-Chalmers promises progress in improvement of working conditions.

Making a sound level survey in an Allis-Chalmers department.

RESEARCH on the sources and effects of industrial sounds and the development of preventive measures against those which are harmful has an important place in the health and safety program of the Allis-Chalmers Manufacturing Company, Milwaukee.

The conservation of hearing program, initiated four years ago, is but another phase of the continuous program for better working conditions in the shops.

Several prominent groups have been conducting research in this field for more than three years and have received wholehearted cooperation from Allis-Chalmers to this end. Company contributions in this respect included:

1. Acquisition of instruments for making sound level and audiometric studies.
2. Supplying and training personnel in the use of the instruments.
3. Conducting sound level surveys on a number of shop operations.
4. Making audiometric examinations of shop personnel.

The experience gained in these surveys assisted materially in shaping the course of future studies by the research groups and, in addition, helped develop the company's conservation of hearing program toward what is hoped will be ultimate control of the problem.

Medical knowledge of the subject is, however, still incomplete in some respects. There is much to be learned about the pitches of sound which are harmful, the intensity of the various pitches which may be harmful, and the effects of the continuity and length of exposure.

Although there are standards for measuring loss of hearing, there has, up to the present, been no agreement on the noise level at which hearing loss may begin.

The long-term program at Allis-Chalmers will probably include taking sound level readings on all operations and making periodic hearing tests on all shop personnel.

Many sound level studies have been completed, and hearing tests

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Audiometric examinations provide a basis for early determination of the sound sensitivities of employees

CROSS COUNTRY

. . . with Chas. F. Alexander

IOWA, long famed for tall corn, good colleges, and beautiful coeds, is one of our fastest growing industrial states. Washing machines, farm equipment, jet engines, machine shop products are pouring out of this prairie state in ever increasing quantities. As you race across the state you see among the corn elevators and farm buildings trim, new industrial plants in operation and modern plants in various stages of construction. America keeps growing, expanding industrially. And Iowa, like the South, is getting a lion's share of the growth.

Wherever you find new industry, new plant construction, you find progressive management. Management interested in the welfare of its employees and its community, and usually management interested in safety. This is true in Iowa, as I found out recently when I appeared on a program sponsored by the Iowa Manufacturers Association and had an opportunity to talk with many of the state's top management and safety people.

Bud Snyder, secretary of the Manufacturers Association, originally worked with Professor Baird at the State College on industrial safety education and also has wide industrial experience. (Through the leadership of Professor Baird, the State College, through its Extension Division, has done an outstanding job in promoting industrial safety). Bud's interest and experience will be a real asset to the Manufacturers Association in developing a state-wide industrial safety program.

A student panel on this program provided an hour of red hot interrogation by five outstanding students from Iowa colleges and straight-from-the-shoulder answers by three leading Iowa industrialists. The college men probed to the very heart of problems of industrial employment, work conditions, labor relations, and business trends. "What is industry doing to make up for the fact that modern industrial techniques have removed almost all emotional satisfaction from performing a job?" "Is industry utilizing the talents and interests of non-engineering college men—the business administration and liberal arts graduates?" "What are the long-range business prospects?" Tough questions that show, I think, a keen awareness of actual conditions and problems that exist in American industry today.

These young men are not taking any tailor-made reports of conditions of industrial life. They wanted to know the real answers, right from the source. Fred Maytag, Jr., president of the Maytag Washing Machine Company, did an exceptional job of supplying these college men with straightforward, factual answers. I sat next to Mr. Maytag at the luncheon that followed the program and found him a real safety enthusiast and keenly interested in the welfare of his employees. I think that programs such as Bud Snyder's student panels provide an idea for our safety meetings.

This problem of the future of our next crop of college graduates is one in which I have a personal interest—my 18-year-old son is a first-year engineering student at the State College at Ames, Iowa. Engineers, as all of us in industry well known, are as scarce as 20 game winning pitchers and are paid just about as well for signing. Every boy who gets his degree has half a dozen good jobs to choose from. It's gotten to the point where whole graduating classes are hired sight unseen by desperate companies—and sometimes the boys name their own figure. What these young men must learn—and the majority of them are well aware of it—is that solid careers in industry depend on a foundation of technical skill, personal application, and ability to work with others.

Despite lush starting salaries any person starting out in industry today has problems, big problems, much more serious problems than my generation. When we got out of school in the middle of the depression all *we* had to worry about was getting three squares a day! Young people today, facing Army service, facing business and world conditions that are unpredictable and unpromising, are hardly to be envied. I don't think I would choose to start my business career—if I had a choice—in the year of 1952!

Because there is so much new in Iowa industry, I spent an extra day in Des Moines to make a few plant visits. I stopped in at Solar Corporation where Fred Van Horn, safety director, showed me how jet engine components are turned out in mass production. Stainless steel is tricky stuff and at Solar I saw the results of a remarkable engineering and tooling program.

Solar has put on a lot of new people—many of them without previous industrial experience—and Fred has found himself with some tough safety education problems on his hands. For one thing Fred has had to combat a lot of horseplay among the newer men. On one job compressed air was used to blow grinding dust out of long tubes. Some of the men would let a lot of dust accumulate, then would point the tube at a worker and give it a blast of air—

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The Small Plant

(From page 19)

bad. I am only saying that they are so. Not, certainly, of every one of us alike, but they are habits and reactions we think of as characteristically American.

The American citizen, and more especially the American employer, believes in doing it for himself if he can—whatever "it" may be. I say that with implicit confidence—straight in the teeth of all of the accusations that employers want nothing quite so much as they want something for nothing from their government and that workers want nothing quite so much as they want something for nothing from their employers.

Like the rumor that the younger generation is going to the dogs, I just don't believe it. Most of you under the age of thirty are the sons and daughters, by the way, of the generation that was once widely publicized as having already arrived at the dogs. There are exploiters and manipulators and chiselers in every kind of occupation, but they do not represent the pattern of our business life and of our labor.

Furthermore—and this is the second premise to which I tie my beliefs—the American employer is decent. He grew up in a tradition of decency, he lives in an atmosphere of decency, and he has every intention of treating his help with decency. And by decency I mean the noblesse oblige which characterizes the actions of most self-respecting persons who, through circumstance or intent, have power over the daily lives of other persons.

The exceptions to the rule do not prove the contrary. Because there are parents now and then who beat their children to death to enforce discipline we do not disparage parenthood, nor do we believe that parents in general are feeble-minded or sadistic. Employers, both large and small, are to be given credit not only for the same inherent feelings as the rest of us, but for actively maintaining their humanity under the great pressure of competition.

Regardless of the size of his establishment, the American employer, by and large, fits the American pattern of freedom and decency—of a craving for elbow-room and a willingness to meet his obligations to his fellow men. That the small employer has not met his obligations to his employees in the field of safety with as great success as we think he should is less an indictment of him than it is of us.

We have to start from some sort of premise—either the premise that men want to be free and that they want to be good, or that they want to be bound and they want to be bad. That is a gross over-simplification, but each one of us leans toward one or the other, and our choice has a great deal to do with what we propose in relation to safety in the small business. The nature of our proposals for a solution to this question of personal safety for employees in the smaller industry will be determined by whether or not we think the small employer *can* control his hazards if he wants to, and, further, whether or not he can ever be led to *want* to control them.

If we say he can not control his hazards, we confess our own incompetence in accident prevention technology; if we insist that he can not be led to a desire to do so, we are claiming, in effect, that all our historical arguments on behalf of safety programs as enlightened self-interest are specious and beside the point. We are not a chosen people.

The error we may have made in the past may well be the error of thinking of the big-plant man and the small-plant man as two different kinds of men, instead of the same kind of man in need of different approaches to the same kind of problem. We are not going to make progress with accident reduction in small businesses by driving wedges between small businesses and big ones, by assuming that one is enlightened and well-meaning and that the other is not, and therefore must somehow be "managed."

The formulas which have so far been tried have not worked very well. We have tried publicity and exhortation. We have talked about costs, about rising insurance premiums and direct and indirect losses. Of legislation and the threat of more legislation. We have appealed to self-interest, to the profit motive, to the humanitarian motive. We have tried to sell safety as one of the magic words with which to open the door of good labor relations.

And for each dollar of investment in this kind of thing we apparently have forgotten about a dime's worth of return. The employees of the 100-man or smaller plant still have about two-thirds of all of the occupational injuries suffered in this country each year. The small members of the National Safety Council still report injury frequencies about two and a half times on the average higher than those of our large members, with the medium organizations—those between 100-500 employees—showing about twice the big-plant rate.

The fault is not in our logic. What we say to the small business man is true. We can prove it—you and I. We can get overwhelming testimony from the best in American industry. It is so true I sometimes wonder if we do not make a vice out of our virtue, like the lady parish worker who is so irreproachable that she is unbearable.

I am quite certain that our freedom-loving, well intentioned friend in the smaller industry just doesn't hear us, and when he hears us he doesn't know what we are talking about, and when he knows what we are talking about he just doesn't believe us—or he believes that our truth applies only to the other fellow.

In the past ten years I have talked many times on the subject of small plant safety. But almost always to big plant safety people,

to insurance company people, to state and federal department people, and occasionally to representatives of associations of small businesses.

But to the little plant manager, the dry cleaning establishment owner, the filling station man, the hardware store man, the owners and operators of the Interplanetary Metal Parts and Gimmick Corporation of Weed Shoal, Louisiana—to them, rarely a word. If we people who have a vested interest in the problem of the small business do not soon find a better tactic, we shall be in danger of becoming a mutual admiration society.

I have already implied that I do not believe force is the way to get the attention and the comprehension we want. We don't want compulsion in the form of legislation, from union pressure, or in any other form. I have stated my belief that the American executive of whatever stature is better led than driven, even when he can be driven, and I further believe that the result is better. We are simply not justified in assuming, because many thousands of managers of small businesses in this country have not bought our bill of goods, that they, and not ourselves, are to blame.

By saying this I do not decry the good that comes from the adoption of *constructive* legislation—of standards and codes and the establishment of reasonable minimum requirements for sanitation and safety. Such legislation is the desired outcome—in fact, the expected outcome—of the work done by safety associations, manufacturing interests, trade groups, government agencies and laboratories in developing such codes and standards in the first place.

One principle has become axiomatic in the safety business: the elimination of physical hazards in any working environment not only reduces the frequency and severity of injury to employees in that situation, but it also changes the nature of the problem of further reduction. As unsafe conditions are minimized as accident factors, unsafe work practices become proportionately more and more important. That shift from engineering emphasis to employee training and education is almost a formula history of every plant which has started a safety program from scratch.

That being the case, constructive legislation eventually reaches a point of diminishing return, and must be replaced by punitive legislation. That is, if legislation is to be the chief solution to the injury problem in small plants. We cannot legislate attitudes and points of view, either the employers' or the employees', and therefore that large residue of injury causes remains forever beyond the reach of any remedy except a voluntary one.

★ ★ ★ ★ ★ ★ ★

I am inclined to believe, if we are to develop voluntary programs of accident prevention in the smaller industries, that our best hope lies in the industry associations.

—Ned H. Dearborn

★ ★ ★ ★ ★ ★ ★

I do not know what success we might expect from a carefully planned and coordinated attempt on the part of large concerns to influence the accident control work done by their small subcontractors. A precedent was set, of course, during World War II. Such attempts to control hazards, attempts made in the interests of improved quality and rate of production, and sponsored by the purchasers who themselves have first-rate safety programs, should make a good deal of headway. They should, too, leave a residue of effect after the subcontracting relationship is ended, just as the Job Instructor Training of the second World War had a profound influence on American employers in the matter of supervisor training.

Several—perhaps many—of the very large corporations on the roster of the National Safety Council carry on well-planned and well-executed safety relations programs with their suppliers. One large manufacturer reached 47,000 suppliers, another 12,000, still another publishes for its suppliers a handsome, persuasive brochure on accident prevention. I offer this much detail on the subject because the working relationship of the big enterprise with the small enterprise may well deserve more attention—perhaps some large-scale planning and support and cooperation—as a means of reaching the mind, as well as the ear, of the smaller employer!

The blindness of the small employer—a blindness almost proportionate to his organization's smallness, it would seem—is not willful. He just does not *believe* you when you tell him he has a great many costly and unnecessary employee injuries. He knows you don't know, either, but how—he thinks—can anybody know such stuff? What has a national average got to do with him, anyway? Those aren't facts; they are just statistics.

The next time you engage in conversation an employer of—let's say—50 people, a man who is unaware of your professional interests, I suggest you ask him about the hazards of his operations. Do it with tact, for he may resent a direct question as an implication that he does not know how to run his business.

Lead the discussion into his first-aid setup, his arrangements for medical attention in serious cases, and make a vague reference to the fact that probably fatal accidents in his business are unknown. The two of you will doubtless come to the comfortable agreement that the head bookkeeper with the kit of first-aid materials does a perfectly fine job, that the amputation case of two years ago was just one of those things—the fellow admitted it was his own fault—and besides, the insurance company gets plenty to take care of that end of it. The implications about the cost to him in the

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The Safety Library

Books, Pamphlets and Periodicals of Interest to Safety Men

BOOKS AND PAMPHLETS

Job Placement

Physical Capacities and Job Placement. By Bert Hanman. Published by Nordisk Rotogravyr, Stockholm, Sweden. 1951. 167 p. Available from John de Graff, Inc., 64 West 23rd St., New York 10, N. Y.—$5.00.

This book begins with a simple clear-cut and brief explanation of job analysis and placement practices and procedures. It then covers a philosophical discussion of physical fitness as applied to job placement and thereby touches several theoretical concepts.

The main body of the book deals with a discussion of the various methods used to determine the ability of disabled persons to handle jobs. The various methods of placement of disabled persons are discussed in some detail and the defects of each method are pointed out. The author finally proposes a method he feels is best and explains it with illustrated examples.

This is a good book for reference purposes for large businesses desiring to perfect procedures for placement of persons. It would require specially trained personnel and procedures however, so that small businesses might not be able to practicably use it.

Robert D. Gidel

First Aid

First Aid—Surgical and Medical. Warren H. Cole M.D. & Charles B. Puestow with nineteen other Medical authorities. 4th edition. 1951. 432 pages; Illustrated. Price $4.00. Appleton-Century-Crofts Inc., New York, New York.

First Aid—Surgical and Medical, presumably edited by Cole and Puestow since they wrote the prefaces, is a well conceived book. It consists of a series of essays written by a group of cracker-jack physicians and surgeons who know their subjects well, but it doesn't quite come off. It is still a very good treatment of the subject and I intend to keep the book on my desk, but with just a little tighter editorial control it could have been a very fine book.

When I commenced reading the book I was quite impressed. First aid is serious business that wants serious study. The editors assume that the more the first aider knows of anatomy and physiology and of the medical and surgical treatment that follows the first aid of a particular injury the better his work will be. They also assume that unless a first aider knows exactly what to do and, more important, what not to do he can do irreparable harm and had best not meddle. There can be no quarrel with either of these assumptions; all first aid instruction should be based on these premises. The editors know this, they pound on it often enough, and they should also know that in dealing with such a subject there can be no compromise with clarity. But there is. The distinction between first aid and definitive medical treatment is not made as clearly as it should be, and there is an unnecessary use of technical jargon which makes a difficult subject more so.

The book was first published in 1942 when comprehensive first aid texts were needed. It has gone through four editions and has been brought up to date. The present edition incorporates much that was learned in the last war and much that has been learned since then. Factually the book is as complete as it can be expected to be. But, neither the editors nor the publishers are faced with the same war time pressures that might excuse an unclear presentation. There can be no excuse now for the poor condition of the present edition.

Beyond this general lack of clarity, I have these specific criticisms to make. Nitric acid is mentioned as a cauterizing agent in dog bite wounds. This has absolutely no effect against rabies and in fact does considerable harm to tissues, making a minor wound a major one. Cherry red coloration is mentioned as the only symptom of carbon monoxide poisoning. When carbon monoxide poisoning has progressed to the point where the skin is tinted the chances are the victim is beyond any help. There are other symptoms, less specific perhaps, that indicate respiratory difficulty and the necessary first aid. These aren't even mentioned. The section on artificial respiration is woefully incomplete. I have the feeling that the author was not familiar with the practical application of artificial respiration. There is an indiscriminate recommendation of oxygen or oxygen and carbon dioxide for respiratory difficulties; even though in one place the carbon dioxide mixture is condemned. Further, as with most first aid books 2 per cent sodium bi-carbonate solutions, normal saline solutions, and such, are spoken of but nowhere are instructions given by which they can be made.

As a class room text read under the supervision of someone who knows his subject well the book is useful. As a review for someone who already knows first aid the book is useful. But, it is unnecessarily difficult for someone who wants to learn first aid by himself. It needn't be and with a little more care in its preparation would not have been. Still it is a good book.

Stewart Washburn

Atmospheric Pollution

Air Pollution Abatement Manual. Chapter 6. Sampling Procedures and Measuring Equip-

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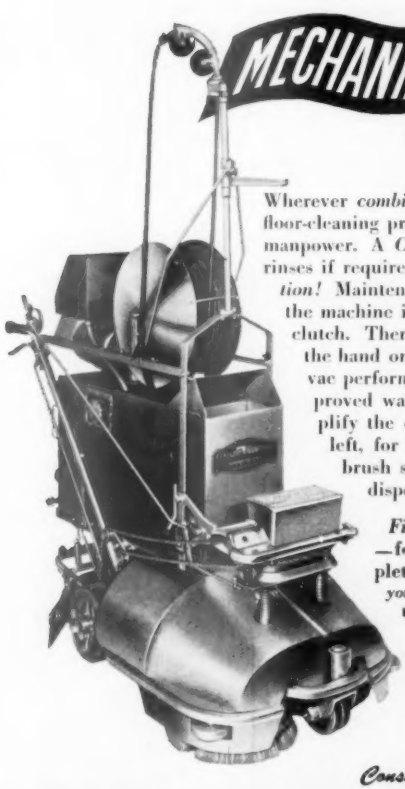
Let's not clean away dollars and man-hours with costly, inadequate floor care



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BRANCHES IN ALL PRINCIPAL CITIES

Hard Hats Are Working On the Railroad

By C. V. PETERSON

SINCE the days of the cave man, hats have been fashioned and worn for a variety of reasons.

At first, a head covering was a means of protection against the elements, but the vanity of men soon asserted itself. A bit of finery added something to the wearer's feeling of importance.

Man, however, was also practical and was not long in discovering that by changing the material and construction of his hat it could be made to serve the extra and important function of protecting his head from blows.

Many a knight in clanking armor lived to a more advanced age simply by adding a metal helmet to his regalia, and thousands of GI's owe their lives to their "tin hats."

The principle of the soldier's helmet is used today on the Milwaukee Road and in many other industries as a means of protecting men whose work exposes their heads to falling or flying objects.

Practically a thing of the past is the once familiar soft hat of the lumberjack. In its place is a hat of metal or composition designed to withstand and deflect the blow of a falling limb or tree top which could crack the skull of anyone who might be in its path. In the mines a safety helmet, like shoes with toe-protecting caps, is a part of the equipment of every hard-rock miner; he does not enter his place of work without it. Some states even require that such equipment be worn in certain occupations.

Safety helmets are designed according to the needs of the wearer. Some are constructed of lightweight metals, some of specially prepared spun glass, and others of various compositions whose particular characteristics have been found to be well suited to certain uses, such as being water proof, shock proof, oil or heat resistant.

One type in general use on the railroad is constructed of strong molded composition, rounded sufficiently to deflect an object striking it from almost any angle. Being light in weight, it is comfortable, and since it "floats" in a hammock-like device which fits over the head, the cutting force of a falling object is broken and the shock of the blow is lessened. In addition, the hammock provides a space between hat and head for circulation of air during hot weather, or for a winter liner when needed.

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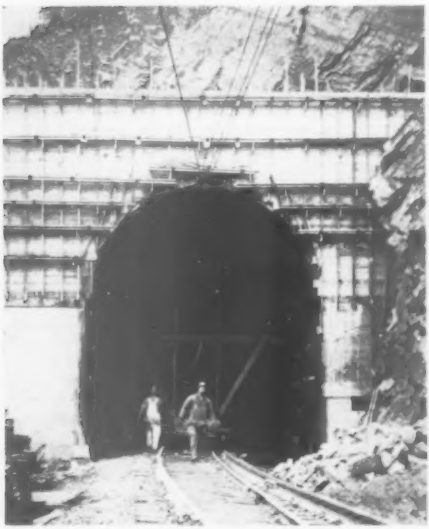
C. V. PETERSON is District Safety Engineer, Chicago, Milwaukee, St. Paul and Pacific Railroad, Butte, Mont.



Many railroad projects call for protective headgear, such as this one in Idaho where a crew of the Milwaukee Road is rebuilding the portal of a tunnel and relining a 470-foot tube.

Work overhead and at ground level exposes crews to hazards of falling tools, rocks and other objects. On the Milwaukee, many crews, including drop pit engine mechanics, find hard hats insurance against injuries.

Keep him on the job!

Hexachlorophene in Formula #99 Antiseptic Soap cuts absenteeism by combating dermatitis and infections

Oily waste is fine for wiping off grease and grime, but it doesn't *really* clean hands. To do that, you need to wash them. But ordinary washroom soaps don't *really* get hands clean, either. They leave skin bacteria, which can aggravate any irritation or abrasion into a case of dermatitis. Most of these are caused by daily contact with irritants like cutting oils, solvents, abrasives, acids, alkalis, waxes, etc.

To help combat this health problem—and to overcome the tremendous loss of man-hours that results—Armour has developed Formula #99 Liquid Antiseptic Soap especially for industrial use. Hexachlorophene, the active agent in Formula #99, maintains an extremely low bacterial count on the skin—and this protection increases with regular use.

Formula #99 is also *lanolated*. This helps replace natural skin oils and counteracts the drying effect of repeated washings.

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COMING EVENTS

In the Field of Safety

Sept. 8-13, Chicago
Illuminating Engineering Society, National Technical Conference (Edgewater Beach Hotel).

Sept. 11-12, York Harbor, Me.
Twenty-fifth Annual Maine State Safety Conference (Marshall House). A. F. Minchin, secretary, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

Sept. 16-18, Cleveland, Ohio
Fourteenth Annual Ohio State Safety Conference (Hotel Carter). Carl L. Smith, secretary-treasurer, Ohio State Safety Council, 2073 E. 9th St., Cleveland 15, Ohio.

Oct. 20-24, Chicago
Fortieth National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Oct. 20-24, Cleveland, Ohio
American Public Health Association, 80th Annual Meeting. (Public Auditorium). Dr. Reginald M. Atwater, executive secretary, 1790 Broadway, New York.

Apr. 28-30, Pittsburgh, Pa.
Western Pennsylvania Safety Council, 28th Annual Safety Engineering Conference and Exhibit. Harry H. Brainerd, executive secretary, 605 Park Bldg., Pittsburgh 22, Pa.

Oct. 24, Springfield, Ill.
Sixteenth Annual Meeting of the Illinois Mining Institute (Hotel Abraham Lincoln).

Nov. 12-13, Cincinnati, Ohio
Second Annual Greater Cincinnati Safety Council (Sheraton-Gibson Hotel). Kenneth R. Miller, executive director, Greater Cincinnati Safety Council, 1203 Federal Reserve Bank Bldg., Fourth and Race Sts., Cincinnati, Ohio.

The man who worries about who's boss in his home won't be happy when he finds out.

One reason it's hard to save money is that our neighbors are always buying something we can't afford.

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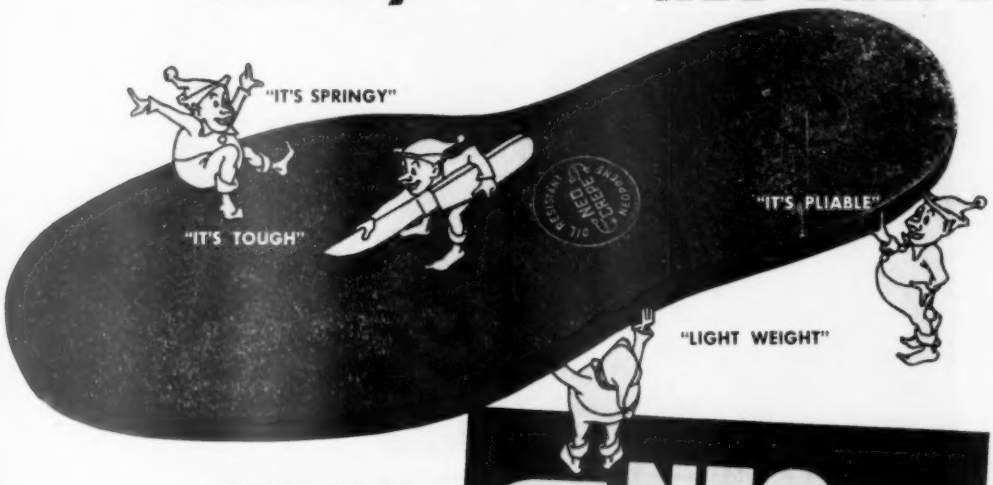

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Resistant to oil, grease, acids, caustics and metal chips, Neo-Crepe soles have proved their worth in long and exhaustive tests.

Gro-Cord is confident of this new sole's performance in your plant, and encourages its recommendation by you to your men. Twenty-five years of success as manufacturers of safety soles assures that your men, when they walk on Neo-Crepes, will walk in greater safety.

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NSC Chapters to Have Retirement Plan

Present at the signing of the Trust Agreement covering Retirement Income Plan for National Safety Council Chapters and their employees were: Seated: Ned H. Dearborn. Standing left to right: R. L. Forney, general secretary, National Safety Council; Earl F. Campbell, manager, Field Organization Department; Ralph W. Robinson, staff consultant on drafting the retirement plan; Walter D. Ladd, chairman, Committee on Procedures of the Conference of Local Safety Organizations, and manager, St. Joseph (Mo.) Safety Council.

FIRST opportunity to participate in the newly perfected Retirement Income Plan for employees of chapters of the National Safety Council will be September 1, 1952, when all eligible local councils that sign an Agreement of Joinder will be committed to the provisions of the Agreement and Declaration of Trust by which the plan was established. Those entering the Plan later may join on December 1, March 1, June 1, or September 1 of any year.

The Plan came into being in June with approval by the NSC Board of Directors and the signing of the agreement by the National Safety Council as Sponsor and the Northern Trust Company of Chicago as Trustee. This contract provides that the Trustee shall collect premium payments from participating chapters, buy individual annuity contracts from the John Hancock Mutual Life Insurance Company, and administer the trust fund.

Payments of premiums for the retirement income policies will be made annually in advance by each participating chapter to the Trustee and will amount to 10 per cent of the individual employee's annual income. The employer may pay the entire premium, or it may be split between employer and employee. In no case, however, will the employee pay more than 5 per cent of his annual earnings.

All Class A (full-time manager) chapters of the National Safety Council and their employees who meet the standard qualifications will be eligible to participate in the Retirement Income Plan. Such employees must be between the ages of 24½ years and 69½ years, and must have completed two years of continuous service for the employer. Participation is voluntary and no employee is required to join.

A booklet describing the plan in detail is being mailed to eligible chapters. It includes a letter from Ned H. Dearborn, president of the National Safety Council, making formal announcement of the plan and listing its principal features, which include:

1. An equitable and systematic method of retiring employees;
2. Maximum retirement income;
3. Simplicity of adoption and administration;
4. Flexibility to meet varying financial and other circumstances of chapters;
5. Optional provisions for recognition of past service, and
6. Continuity in case of transfer from one chapter to another.

The letter points out that the pension plan has been completed after many months of study by a special committee of the Conference of Local Safety Organizations, assisted by the Field Organization staff and by pension trust consultants of the John Hancock Mutual Life Insurance Company as Insurer. Ralph W. Robinson of the NSC Field Organization has been acting as staff representative in development of the plan.

The National Safety Council's contributions to the plan consist in providing staff and legal services for developing it and drafting the master agreement; furnishing leadership, staff services and promotional materials for enlistment of Chapter participation; and over-seeing the general operation of the plan through the Conference of Local Safety Organizations and Retirement Plan Committee.

Members of the Retirement Plan committee of the Conference are Robert B. Leopold, Atlanta, Ga., chairman; J. James Ashton, Wilmington, Del.; Joseph M. Kaplan, Los Angeles; Kenneth R. Miller, Cincinnati; and Walter D. Ladd, St. Joseph, Mo., chapter mgrs., and Ralph W. Robinson.

Mr. Dearborn's letter concludes:

"The Directors of the National Safety Council feel that this model plan constitutes another bond cementing the cordial relationships between the National and its chartered chapters. They urge that the officers, board members and managers of all eligible chapters prepare now to enroll their organizations at the first opportunity."

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Industrial Health

Abstracts of current literature on Industrial Hygiene, Medicine, and Nursing

By F. A. VAN ATTA, Industrial Department, NSC

Chronic Disease

The Chronic Disease Research Institute, A Joint Approach to the Problem of Long-Term Illness in Buffalo, by I. Jay Brightman. New York State Health News, Volume 29, No. 4, April 1952.

THE NEW YORK State Committee to formulate a long-range health program in 1948 made a recommendation "that for each region, the state should build or acquire and support a chronic disease hospital center to provide specialized facilities for diagnosis, treatment, teaching and research, and to serve as a chronic disease referral and consultation center for physicians, general hospitals and related institutions of the region. Whenever possible, the hospital center should be contiguous to a general hospital, in close proximity to a medical school and staffed and operated by contract with such hospital and medical school."

This recommendation was generally well received but has not been acted upon to any extent because of the extremely high cost of hospital construction in recent years. Since that time there have been several major conferences on the problem of chronic disease and it has become more and more recognized that this is one of the major health problems of the present time.

Each of the conferences on chronic disease problems has made specific recommendations and proposals, but there are two general conclusions which have been common to all. It is universally agreed that much is to be gained by applying the existing information on chronic diseases to all segments of the population by means of known technique. It is also very generally recognized that because of the limitations of knowledge of prevention, early diagnosis and rehabilitation, each phase of a chronic disease program should be accompanied by an intensive research program.

The Chronic Disease Research Institute in Buffalo was established in May, 1950, as a joint project of the Public Health Service which has made available the buildings formerly occupied by the Buffalo Marine Hospital, The State Department of Health which is providing the major part of the operating and maintenance funds, and the University of Buffalo School of Medicine which is administering the center and providing the professional staff. It is rather unique in that it is setting a pattern for establishing the research center within an existing medical teaching organization rather than drawing personnel and funds away from existing centers by setting up a new and separate institution.

The location at the medical school also provides the clinical and basic science research staffs of the school facilities for carrying out their investigations together with teaching responsibilities and at the same time gives the institute the advantage of being able to draw on the skilled personnel of the medical school.

The Chronic Disease Research Institute is organized in five major operating units. These are: The Cardiovascular and Metabolic Inpatient Research Unit; The Rehabilitation Center for Chronic Alcoholism; The Physical Rehabilitation Center; The Respiratory Center; The Laboratory.

The Cardiovascular and Metabolic Inpatient Research Unit has facilities for the hospitalization of 50 patients. It uses the second and third floors of the main building together with the laboratory and X-ray facilities are on the first floor.

When new research projects have been worked out and approved by the governing board announcements are made to all physicians and hospitals in the Western New York area, Physicians having suitable patients are invited to refer the patient for admission to the Institute. Once in the medical care of the patient is the responsibility of the Institute's staff and no charge is made to the patient, primarily because the patient is frequently kept for study much beyond the time which is really needed for hospitalization for treatment.

The Rehabilitation Center for Chronic Alcoholism is a year and a half older than the rest of the Institute. It was incorporated into the General Institute at its formation and is also affiliated with the Alcoholic Ward of the County Hospital which it utilizes for hospitalization of periods from one to three weeks. It provides psychiatric, medical and social service to chronic alcoholic patients.

Because of the rapid development of facilities for rehabilitation of patients suffering chronic disease the Physical Rehabilitation Center is an important adjunct of the Chronic Disease Research Institute. It is intended that this unit will provide the best available treatment to individuals during the entire time that they are under study and also will investigate the possibility of introducing rehabilitation procedures into the management of conditions now considered hopeless and also to provide the maximum utilization of the abilities of persons who would normally receive rehabilitation.

The Respirator Center is a unit for the study of poliomyelitis patients with respiratory complications. The National Foundation for Infantile Paralysis has shown interest in this development and is supporting the research aspects

by
Watchful Dan
The Safety Man

DO BIGGER ACCIDENT SCORES MEAN YOU'RE MAKING PROGRESS?

Happened to see a monthly plant report the other day on eye accidents. The tabulation looked like this:

Flash	1
Chemical and other burns	2
Contusion, laceration, etc.	1
Foreign body	16
Total	20

Reminds us of the old argument between the safety engineer on one hand who hits the ceiling when he sees a high incident of first aid treatment, vs. the safety guy on the other hand who *loves* it.

How many of the foreign body accidents in the above box score were "trifling?" That total might have been held down to 4 or 5 if all workers in the foreign body category hadn't been such worry-warts, one might say.

Personally, we believe in high accident scores—but not just to keep the nurses busy (altho that's what they're there for). Ask the doctor at your place just how "trifling" a speck of dust in the eye can grow to be if not attended professionally.

Every time a worker goes to first aid he's asked how the accident happened. It can't help but encourage more conscientious use of safety eyewear. And *that* can't help but reduce the carelessness that causes 98% of our industrial accidents.

-Dan

of the project. It has facilities for eight patients in respirators which may be increased.

The setup of the institution is such that the governing board is responsible for approval of all research projects undertaken. Research projects may be initiated by any of the members of the Institute's staff or by any regular member of the faculty of the University School of Medicine. The governing board evaluates the importance of the project when proposed and the possibility of carrying it on in the Institute without overloading one unit. In the early months of the operation of the Institute one of the major projects was the overloading of the laboratory by the large number of metabolic studies undertaken in the Cardiovascular and Metabolic Center.

Electric Vaporizing Devices For Insecticides

Health Hazards of Electric Vaporizing Devices For Insecticides. The American Medical Association Council on Pharmacy and Chemistry, Committee on Pesticides, Bernard E. Conley, Secretary. The Journal of the American Medical Association, 149:367-369 (May 24, 1952).

THE DISPERSAL of insecticides by means of small smoke generators was developed by the military during the last war and the type of dispersal was, of course, immediately adapted to peacetime use. The early attempts resulted in decomposition of the insecticides and bad tastes and odors in food and water exposed to the smokes. With more highly purified samples of DDT and benzene hexachloride, these disadvantages have been overcome and small electrically-operated thermo generators are widely used both in industries and in homes.

There is still some question about the physiologic action of the insecticidal materials under these conditions of use. There is a considerable amount of information on the possibility of acute intoxication from most of these substances but the question of chronic toxicity from inhalation or food contamination in quite small amounts continued over a long period of time is not well studied.

The commercially available

types of generators are automatic, thermostatically controlled or manually controlled electric vaporizers which operate continuously. There have been experiments with insecticide impregnated wicks in Europe and some experiments with vaporization of insecticide into a stream of air from a glass wick in this country. The end results in both of these instances are quite similar to the more common electric vaporizers.

The recommended rate of discharge for DDT in the thermo generators is one gram of insecticide in 15,000 cubic feet of air for each 20 or 24 hour period. The discharged insecticide will eventually crystallize on the ceilings, walls or other exposed surfaces. The pattern of this recrystallization depends on the type of insecticide and the ventilation pattern in the particular room. The distribution of the pattern is generally uneven and it is possible for the material to accumulate in sufficient quantity that bits will drop off.

The atmospheric dispersal of the vapor is also irregular. From a properly-operated automatic, thermostatically-controlled machine the concentration of DDT in the atmosphere may vary from 0.13 to 1.3 milligrams per cubic meter of air in various parts of the room. The Lindane vapor from the same type of device has been found in concentrations ranging from 0.09 to 0.2 milligrams per cubic meter of air. These maximum values could correspond to inhalation of the order of 13 milligrams of DDT or 2 milligrams of Lindane during a work day of continuous exposure. This maximum exposure to DDT approaches the maximum safe level as presently known. The maximum level for Lindane is not known to be dangerous.

There has been some discussion of the health problems associated with the use of these devices. The Interdepartmental Committee on Pest Control composed of representatives of the Departments of Agriculture, Interior, and Defense and the Federal Security Agency has cautioned against the use of these automatic devices where human exposure is on more-than-a-

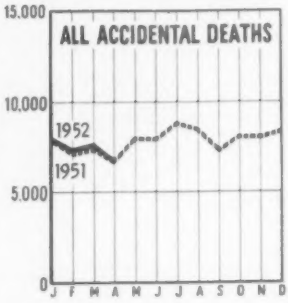
—*To page 76*

THE ACCIDENT BAROMETER

Prepared by the Statistical Division, National Safety Council

ACCIDENTAL DEATHS in April numbered approximately 7,100, or 6 per cent more than in April, 1951. There were small increases in deaths from home, occupational and public non-motor-vehicle accidents. Motor-vehicle fatalities numbered about the same as last year.

The four-month death total was 29,200, an increase of 1 per cent over 29,000 in 1951. Small increases occurred in deaths from motor-vehicle, occupational and public non-motor-vehicle accidents. Home accident fatalities showed a slight decrease from last year.



	1952	1951	Change
April	7,100	6,700	+6%
Four Months	29,200	29,000	+1%

the four-month death totals were:

North Atlantic	—4%
South Atlantic	+9%
North Central	+2%
South Central	+6%
Mountain	—5%
Pacific	—5%

Motor-Vehicle Deaths

The motor-vehicle death toll in April was 2,610, the same as in April, a year ago. This was the second month to show no change in a month to month comparison with 1951.

The death toll for the four months was 10,650, an increase of 1 per cent over 10,510 last year. The four-month death rate per 100,000,000 vehicle miles was 6.6, a decrease of 7 per cent from the 1951 comparable rate of 7.1.

Of the 44 states reporting for four months, 21 had fewer deaths than last year, 1 showed no change and 22 had more deaths. Reporting cities with populations over 10,000 showed an increase of 14 per cent for April, but a reduction of 2 per cent for four months.

Regional changes from 1951 in

Occupational Accidents

Deaths from occupational accidents totalled 1,200 in April, an increase of 9 per cent over last year. The four-month death total was 5,300, an increase of 2 per cent over 1951.

The April frequency rate for plants in seventeen sectional accident prevention contests conducted by the National Safety Council was 6.52, a reduction of 6 per cent from last year. The April rate for plants in community council interplant contests was 8.64, an increase of 5 per cent. The four-month rate in sectional contests was 6.50—down 9 per cent; while in community council contests it was 8.30, a 1 per cent reduction.

Public Deaths

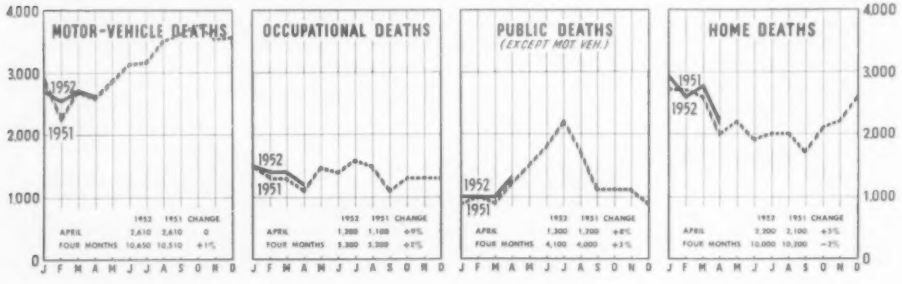
There were approximately 1,300 deaths from public non-motor-vehicle accidents in April, an increase of 8 per cent over April last year.

The four-month total was 4,100, or 3 per cent more than in 1951. There were increases in deaths from firearms accidents, drownings and falls. Deaths from burns and transportation accidents were less numerous than last year. Moderate reductions occurred in deaths of children 5 to 14 years and persons 45 to 64 years old. All other age groups showed increases with the largest change recorded for persons 25 to 44.

Home Deaths

Home accident fatalities in April numbered approximately 2,200, an increase of 5 per cent over 2,100 in 1951.

The total for the four months was about 10,000, or 2 per cent less than the 1951 comparable total of 10,200. There was a moderate reduction in mechanical suffocation deaths and small decreases in deaths from burns, firearms accidents and falls. Fatal poisonings numbered about the same as last year while unclassified home accidents showed a large increase. Small decreases were reported for young people 15 to 24 years old and persons 65 years and over. Children 5 to 14 years of age had a moderate increase over last year. Other age groups showed little change.



You could know the plant . . . 20 years of steady growth . . . 20 years of work, brains and money . . . then in 20 minutes a little fire got away and reduced it all to nothing.

But, your larger size fire hazards can be protected very efficiently at a reasonable cost, thanks to C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems. Simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area . . . to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

Flexibility is the keynote with these C-O-TWO Fire Extinguishing Systems . . . the low pressure carbon dioxide storage tanks range in capacities from one to fifty tons . . . discharge facilities can either be manual mechanical, manual electric, automatic mechanical, automatic electric or a combination of these . . . especially installed to fit your particular needs. Future plant expansion is easily and economically provided for by initially installing an oversized low pressure carbon dioxide storage tank and adding the supplementary discharge facilities at a later date.

Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

WHEN BUSINESS STOPS . . . INCOME STOPS!
Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!

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Divorcing Destruction

(From page 25)

and safety committeemen, and the regular tours of inspection by the safety director. In effect it meant that there was always a nucleus of men on the job sufficiently interested in accident prevention to correct a hazard before it resulted in an accident.

Employees were encouraged to contribute safety suggestions, but the response was less favorable than anticipated; however recommendations were received and dealt with by the safety committee.

Whether or not construction personnel would respond to a standard safety educational program was never established because of the changing personnel. A compromise was therefore adopted to provide spontaneous injections of safety serum as the job progressed.

The first shot was given before the men commenced work. It consisted of a brief resume of accident experience to date, specific hazards resolved from accident experience and as a final word that the company required each man to work efficiently by working safely. This was followed by contact on the job by foremen, safety committeemen and the safety director. An example was set by the experienced men, which greatly influenced their fellow workers.

Some safety films were shown at the camp in the evenings which attracted full houses and more than justified the small cost. Painted signs such as "Keep walkways clear." posters — some of which were produced by the personnel — were displayed. "Days without accident" record boards were maintained for each separate part of the undertaking. The latter provided quite a stimulus to foremen who were anxious to prove their worth in the safety field. The main accident record board located at the entrance to the plant area also proved of considerable interest.

Bartering, buying and selling was capitalized on by the production of a weekly bulletin which included these items plus a number of safety reminders. Each sheet was provided with a safety cartoon drawn by a member of the office staff. In order to stimulate circulation each bulletin was numbered and the lucky number was drawn from duplicate numbers placed in a hat, the weekly prize being awarded to the person presenting this copy. In this manner copies had to be kept for one week in order to check the lucky number in the subsequent issue.

For the supervisory personnel, a safety booklet was prepared and issued to each member. The booklet, *Safety in Construction*, reviewed briefly the accident problem in relation to management and the important part they played. Included also was some direction as to how to control accidents.

Not to be outdone by these efforts the first aid attendants took up the challenge and when treating an injury diagnosed the cause and cure of both injury and accident, and took pride in treating to prevent unnecessary layoff. The men themselves in turn responded to this progressive approach and had their injuries treated promptly, making infection a rarity.

In the interest of a well-informed management, a monthly report was prepared which provided current statistics and matters of interest which had occurred during the month.

Well-equipped hydrant houses aided fire protection on the project.

Protective equipment, although uncomplicated, consisting mainly of head, hand and eye protection and protection against noxious vapors, was handled by the tool crib, the cleaning and maintenance of equipment being taken care of by the man responsible for the maintenance of fire equipment. Protective clothing other than that for specific hazards, was handled through the commissary and sold on a cash basis.

Temporary fire protection and prevention under the control of the safety director, required much attention because of the wooden buildings and persistent dry weather during the summer. The fire maintenance man responsible for the equipment was used also for wetting down particularly hazardous areas. The temporary camp was also provided with adequate fire fighting facilities and members of the camp personnel trained in fire fighting and rescue work.

In considering the accident prevention program it was felt that the guards, whose normal duties were those of security, could also be utilized to observe and report unsafe conditions generally as well as fire hazards. Following special instruction this innovation proved to be very beneficial.

To a safety man, work in construction lacks the firm foundation and continuity of program of a permanent plant. Everything appears to persist in a state of flux. Acceptance of or resistance to safety principles is the great variable brought about by changing personnel. In spite of everything, this job proved that accidents do not have to happen, even in construction.

N. Y. University Announces Fall Safety Courses

A well-rounded program of courses in industrial and/or traffic accident prevention, leading to certificates in industrial and traffic safety is announced for the fall term beginning September 22, by

the Center for Safety Education, New York University.

These courses, are designed for all those who desire a thorough grounding in industrial and traffic accident prevention. Full certificates, awarded on the completion of eleven courses (which may be taken in two consecutive terms), carry the advantages of substantial educational accomplishment.

Required courses: Accident Prevention—Its Background, Objectives, and Relationships; The Philosophy and Basic Principles of Accident Prevention; Industrial Hazards—Mechanical and Personal, Control Methods; Fire Prevention and Protection Inspection; and Organization and Administration of Traffic Safety Programs—Industrial, Community, and Governmental.

Elective courses: Vision in Industrial Safety and Motor Vehicle Operation; Effective Speaking in Accident Prevention; Principles of Safety Inspection; and Marine Accident Prevention.

All courses are given in the evening. For full particulars write to Dr. Walter A. Cutter, Center for Safety Education, New York University, Washington Square, New York 3.

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

JOSEPH S. CALIRO, utility man, New England Bakery, Providence, R.I.—drowning. Certificate of Assistance to JOSE J. DA ROCHA.

CAPTAIN JOHN P. FITZSIMMONS, SR., USN, Commanding Officer, USS Monterey, Pensacola, Fla.—drowning.

DONALD G. PAULSEN, field assistant, Michigan Bell Telephone Co., Kalamazoo, Mich.—drowning.

ALBERT LANE, apprentice lineman, Public Service Co. of Oklahoma, Clinton, Okla.—electric shock.

OLIVER A. LANE, lineman helper, Public Service Co. of Oklahoma, Clinton, Okla.—electric shock.

Green Cross News . . .

Activities of Local Safety Councils and Chapters

Compiled by TOM A. BURKE
Director of Local Safety Programs, Field Organization, NSC

Industrial Safety Course

Two courses in industrial safety were completed at Syracuse University during May. A credit course terminated on May 16 at the College of Applied Science for engineering students and a course for industrial safety personnel was finished on May 12 at University College. Thirteen engineering students completed the credit course and 29 industrial people received certificates for the extension series. The Safety Division of the Syracuse Chamber of Commerce assisted in arranging the courses.

25 Years of Service

E. Ross Farra, manager of the Greater Grand Rapids Safety Council, was the guest of honor at a surprise Testimonial Dinner given by 165 safety council members and friends on June 18. The affair marked the completion of 25 years of service by Mr. Farra as manager of the Grand Rapids Council. Glenn Griffin of the NSC Industrial Department, who was chairman of Mr. Farra's first industrial division, was the speaker of the evening. Mr. Farra was completely taken by surprise. President Herman Ter Meer of the Grand Rapids Council paid eloquent tribute to Mr. Farra's work in greatly expanding the work and accomplishments of the Council. Mr. Farra was the recipient of a nice fat purse filled with greenbacks—several hundred dollars in all.

"Safety Week" in Erie

The Erie Safety Council held its Third Annual Safety Week in the Erie area in May, during which time 23,000 home safety check lists were distributed to parochial and public school pupils and 30,000 educational leaflets were given out at a safety council booth at the Home Builders Show, held the same week. Two hundred persons attended the Council's annual banquet. Concluding its Spring projects was the holiday for 905 members of the school patrols. The affair was held at one of the amusement parks. The Erie Coach Company provided free transportation and the Council and other civic groups contributed free amusement rides, refreshments and cash prizes for contests.

"Safety Rangers"

More than 15,000 Syracuse and Onondaga County school children have been enrolled in Radio Station WSYR's Safety Ranger program since it was launched six months ago. The project is sponsored by the station in cooperation with the Safety Division, Syracuse Chamber of Commerce. The Ranger "Safety Code" is publicized each Saturday morning on a half-hour radio program conducted by Ed Murphy of the radio staff. Each child who signs up to be a Ranger receives a copy of the safety code and the official Ranger Membership button. Recently the entire student body of the Clinton School, 462 pupils, were enrolled in a mass assembly in the school yard. The radio station also contributes all the banners and pennants used as safety patrol awards by the Safety Division along with the Grand Award for the best patrol in the city.

Managers' Institute Postponed

The proposed National Institute for Safety Council Administration has been postponed until some suitable time after the first of the year because of the inability of managers to attend during August. The postponement was decided upon after consultation by the Field Organization staff, with Robert R. Snodgrass, vice-president and chairman of the Conference of Local Safety Organizations and J. James Ashton, chairman of the Conference Committee for the Institute.

The Institute, originally planned for July, was crowded into August because of the scarcity of hotel rooms due to the two big national political conventions held in Chicago during July.

August was found to be a bad month because of vacation plans, conflicts with National Guard encampments, etc. Several managers were compelled to cancel tentative reservations because of important staff changes that made it necessary to be at the home base during August.

Also the expense of two trips to Chicago within three months made it difficult for some who planned to attend the Annual Safety Congress in Chicago.

A questionnaire has been sent out to obtain suggestions on various matters dealing with the Institute, including the best time for holding the course.

The postponement will in no way interfere with the Annual Managers' Meeting held each year on the Friday and Saturday preceding the Safety Congress. It will be held as usual.

Seek $10,000 for Safety

Bob Goddard, popular columnist on the St. Louis *Globe-Democrat*, recently led off his gossip column with a stirring appeal for funds for the Women's Division of the Safety Council of Greater St. Louis. Mrs. Fred Armstrong, vice president of Home Safety for the St. Louis Council, some time ago

appealed to the club women and other feminine leaders in the civic life of that city to raise $10,000 for a home safety fund, to be expended by the Home Division of the Council through the Women's Division. She asked that a thousand women subscribe to a special membership in the Council, the cost to be $10. Columnist Goddard heard about the challenge and gave it preferred space in his daily column of May 27, urging the civic-minded ladies of the city to participate by taking out the suggested $10 membership.

McElroy Heads Conference

Neil H. McElroy, president of the Procter and Gamble Co., will serve as General Chairman of the Second Annual Greater Cincinnati Safety Conference to be held November 12-13 at the Sheraton Gibson Hotel in that city. Mr. McElroy is prominently identified with civic and cultural organizations and this year is serving as a co-chairman of the Community Chest campaign. Harold LeBlond, president of the Cleveland Automatic Machinery Co. will serve as vice chairman, Kenneth R. Miller executive director of the Greater Cincinnati Safety Council will again be the Conference coordinator.

Orchids for Hamilton

The Cincinnati *Enquirer* recently featured an illustrated article on "Hamilton is a Safe City" in the June 8 edition of its Sunday magazine "The Pictorial Enquirer." Six action pictures were used, including one of Manager Russell Hicks of the Hamilton Safety Council, who was shown surrounded by eight safety awards won by the Hamilton Safety Council during the past decade. The article praised the work and the accomplishments of the Hamilton Safety Council and was particularly valuable because it appeared at about the time the Safety Council conducted its annual Green Cross fund campaign. The financial drive was most successful, with a 15 per cent increase in returns over 1951. The photos depicted a busy safety lane, a good driving shot, Hamilton's famous bicycle court in action, a home safety group checking a miniature "Hazard House" and an industrial photo taken in a local plant. The *Enquirer* has a big circulation in the Hamilton area.

Prosser Youngstown Manager

Myron E. Prosser, of Canfield, O., has been named manager of the Safety Council of Greater Youngstown, Clarence A. Baughman, Council president announced recently. Prosser succeeds Paul W. Goss who resigned effective June 15 to enter private business in Dayton. Prosser has been manager of the Sponseller Chevrolet Co., in Canfield and for 18 years was connected with the Ohio Edison Co's. engineering department. He is a graduate of the Youngstown public schools and South High School. Prosser has been active in church work and civic affairs in Canfield for some years. He is vice president of the Canfield Community Club and for years has been connected with Red Cross training and safety work.

Small Plant Medical Service

The Industrial Health Division of the Philadelphia Safety Council has set up an advisory service for in-the-plant medical service and it is now in operation, according to Manager Walter Matthews of the Council. Members of the Council's Industrial Health section who are conversant with medical problems in the smaller industries will sit with the small plant executives and answer pertinent questions on the value of a small plant medical service, with special recommendations as to the type of service that would be most practical for the particular plant.

Noise Abatement Symposium to Be Held October 10

The third annual National Noise Abatement Symposium will be held October 10 at Armour Research Foundation of Illinois Institute of Technology, Chicago.

The Symposium will feature seven talks on various aspects of the noise problem by experts on the control, measurement, and effects of noise. Sponsors of last year's meeting were the Acoustical Society of America, The National Research Council, The National Noise Abatement Council and the Foundation.

NSC Has Helped Us

By M. E. STERNBURGH

Supervisory personnel of the New York City Transit System at safety training class. National Safety Council slidefilms and other training materials were used.

IF ANY safety department depended upon statistics alone for getting across the gravity of the accident problem, reduction of injuries and fatalities would be a very slow process. Few people have either the patience or the imagination required to translate figures into all of the facts they represent and emerge with a vivid picture of the various human angles involved.

Fortunately, the National Safety Council foresaw this, as evidenced by the very considerable volume of dynamically interesting material it has issued throughout its years of missionary work. And among the most valuable contributions along this line are its supervisory training courses consisting of films, quizzes and other material for use as a basis for conference discussion.

As a member of the Council, the New York City Transit System availed itself of the opportunity of giving two of these courses to its supervisory personnel, including foremen, supervisors, etc., commencing in the spring of 1947. The first of these courses entitled *Safety Management for Foremen* was completed by 1,540 supervisory employees, and 825 of the supervisory forces completed the second, or what we call the "advanced," course called *Human Factors in Safety*.

These courses covered such subjects as *The Secret of Supervision, Teaching Safety on the Job, Teamwork for Safety, Case Histories* (a study of actual accidents precipitated by some human factor), *Cause and Cure* (blueprinting accident analysis, determination of basic causes), *Right Dress* (dealing with personal protective apparel, equipment, etc.), *Doctor's Orders* (covering the question of regular physical examinations, and first aid treatment).

This training program was carried on under the direction of the New York City Transit System's own Safety Bureau.

It has been generally agreed by the New York City Transit System's central safety committee, consisting of department heads and other top echelon, that this colorful and practical type of instruction has been highly beneficial to supervisory personnel, who, in turn, have indoctrinated employees all along the line in the fundamentals of safety outlined and graphically demonstrated in the film courses.

The best evidence that these courses have been a vitally important auxiliary to the over-all safety program of the System is the sizable reduction achieved in its lost time accident frequency rate during the years when this training was being given, as shown on the accompanying chart. Moreover, on May 1, 1950, the New York City Transit System was the recipient of the highest award the National Safety Council can confer for an employee accident prevention program—the first transit system to receive such an award—and the buses operated by the System have won two grand achievement awards presented by the Greater New York Safety Council for reducing both employee and passenger accidents.

And so Father Knickerbocker extends a hearty "Thanks!" to the National Safety Council for its assistance in helping to solve one of the country's weightiest problems.

INJURY FREQUENCY RATES

For employees of New York City Transit System, fiscal years ending June 30.

1946*	45.2
1947	37.6
1948	25.1
1949	17.2
1950	14.0
1951	11.9

**Rate prior to start of organized safety program.*

M. E. STERNBURGH *is Director of Safety, Board of Transportation of the City of New York.*

Small Businesses and Associations

By A. M. BALTZER

Director, Small Business and Associations Program, NSC

We're One Year Old

JULY 1 marked the first birthday of the Council's Small Business Program at the staff level. Looking back, it seemed like a rather hectic and lusty first year. Looking around for something significant to report to the Boss, to our Small Business Committee, and to the readers of the NEWS, we are a little confused. There has just been too much going on to cover it in one brief yet comprehensive report. However, one very reassuring thing stands out —a tremendous amount of interest has been developing in the problem of safety in small business, and, still more encouraging, much of this interest has been generated in previously unheard from quarters.

Our staff program is assured of continued support by renewal of the grant made last year by the National Association of Mutual Casualty Companies. Our Small Business Committee has been helpfully active, and we are hopeful that all members can continue for another year, so that there is no interruption in our program in its formative stages.

As might be expected with any first year program, there has been some experiments, and perhaps even floundering around, in trying to find the most successful approach to the small business problem. We have learned that some methods work better than others, and we hope to pass along the benefit of our experience to local councils, associations, insurance companies, ASSE Chapters, and others who are working toward the common goal of "less accidents in small business."

All in all, it's been a good year and, we dare say, a successful year. Our sincere thanks to Chairman Reinhard and the other members of our Small Business and Associations Committee for their untiring, enthusiastic support.

Like a Top-Drawer Outfit

"How a Small Plant Can Operate Like a Top-Drawer Outfit." That is the title of a three part article in the June, 1952, issue of *Factory Management and Maintenance*. Part II, which was the best illustrated, describes how the W. R. Ames Company, of San Francisco, saves money by good safety practices. From our standpoint, it is significant that its author Don Harper, safety and personnel director, got even better "billing" with his Section than did Mr. Gray, president-general manager, with his section on functional organization and Mr. Janin, works manager, in his section on cutting waste by good housekeeping. Equally illuminating is the mention of safety in the other two sections. It is plain to see that this company is sold on safety!

I like Mr. Harper's statement "We're running a 'part-time' safety program full time." He points out that he puts about half of his time in on a safety program and the other half on personnel and plant scheduling. This much effort has enabled a metal fabricating shop, with about 200 employees, to reduce its accident frequency rate from 49.2 in 1941 to 4.5 in 1951. The reduction in frequency is estimated to have saved the company about $14,000 a year.

In addition, insurance costs were cut 2 per cent by a registered nurse. Insurance savings, plus other accident savings credited to her, practically take care of her expenses.

Last, but not least, the W. R. Ames Company has been a member of the National Safety Council since 1943. There is nothing in their program that sounds elaborate—in fact, they just followed common sense principles of, first, wanting to reduce accidents, then, making the shop safe and, finally, helping employees to work safely. And, using Council "tools" apparently hasn't hurt them any either.

Congress Meetings

The Small Business and Associations Committee is planning two meetings for October 22 at the Morrison Hotel. A morning session called "Association Safety Swapshop" will feature six association executives and safety committee men who will describe one specific phase of their association's safety activities. The entire program is being designed for an exchange of information on successful programs rather than safety promotion as was the 1951 meeting.

Following a luncheon, there will be an afternoon meeting for executives of small businesses. Several local groups are co-sponsoring the meeting and assisting us in drumming up good attendance. Principal speakers will be a top executive with a successful safety program and an insurance supervisor with an intimate knowledge of small business accident problems.

Both sessions are rather unusual and should prove interesting and helpful to association and small company executives. Please urge your association and small business colleagues to participate in these important meetings.

Suggestions to Suppliers

FOR SAFETY'S SAKE is an attractive ten-page color brochure now being distributed by General Motors Corporation to their thousands of suppliers and subcontractors. In it Mr. H. W. Anderson, vice-president, states in part;

"Safety is a matter of deep concern to employers everywhere. Because of that concern and because safety is a cause in which the experiences of enterprises large and small can be exchanged to advantage, General Motors is glad to make available these items."

The brochure then lists a number of General Motors films, including the popular motion picture *SAFE AS YOU THINK*. These films, and the booklet, *Safety in General Motors*, are available without charge from the Department of Public Relations, Film Section A, General Motors Building, Detroit 2, Mich.

Sample copies of the brochure are also available from the Small Business Committee, National Safety Council.

Julien Harvey Honored by ATA

JULIEN H. HARVEY, one of the country's best known pioneer safety specialists, has been honored by the American Transit Association for his contributions to safety in the transit industry. A silver medallion on mahogany base was presented to Mr. Harvey by Guy C. Hecker, A.T.A. executive manager, at the annual American Transit Safety Awards luncheon in the Bellevue-Stratford Hotel, Philadelphia, May 22.

Mr. Harvey's career began over 40 years ago as a lawyer with the traction company in Kansas City. Within a short time, he had branched into safety work through organization of a company program to reduce and prevent accidents. This program proved so successful that in 1916 he was asked to assist in organizing the city's safety council and became its first president.

In 1918, he organized the country's first complete community safety program for the City of Rochester. After a distinguished career with the National Safety Council, he became executive vice-president of the Greater New York Safety Council, and in 1938 was called to head the Accident Prevention Department of the Association of Casualty and Surety Companies, from which position he recently retired.

Additional Eyes, Ears and Minds

By W. W. ALLISON

THE more we travel, the more we learn that there are different ways to arrive at any destination. Likewise, there are many different methods we can use to succeed in preventing accidents. The best methods may be those that best meet our local administrative policy as well as our operating and physical conditions. One of the many tools that can be used in a successful program of accident prevention is the "Safety Observer" plan.

We will all agree that neither the safety men nor the supervisors can see all of the unsafe practices and conditions that occur at any hour of the day or night in our plants. So, Safety Observers are utilized as additional eyes, ears and minds to see, to hear and to think about safe practices and procedures among every group of employees "around the clock."

At least once a month our Safety Observers are advised informally of hazards that they can help overcome. The real "know-how," and reasons behind safe practices and procedures are passed on to them in demonstrations, illustrated talks, films and in conference type discussions. For example, we explain that while a "bottle" of air is not flammable, if the cylinder falls over and the valve is broken the cylinder of compressed air will become a jet missile and they have, on such occasions, torn right through brick walls.

Or we explain that while thousands have sloshed and sprayed carbon tet around without any known harm, at least every month we hear of some worker who was using carbon tet in "a normal way" when he was overcome and died from the inhalation of carbon tet vapors.

Safety Observers become rightfully proud of their knowledge and pass it on to their fellow employees on the job in actual situations which they see, but the supervisor and safety men may never see.

This certainly is not the complete answer to accident prevention and must be complemented by whole hearted support of management in such other aids as an effective safety policy committee, supervisory training and special safety training for groups such as hook-up men, acid handlers and

W. W. ALLISON is Safety Supervisor, Atomic Power Division, Westinghouse Electric Corp.

Safety Observer's Credo

To believe sincerely that there is no more worthwhile act or duty than to work to preserve the life or limb of one's fellow men.

To learn the hazards of the job and how to overcome them.

To set a good example and gain the confidence of fellow workers so they will see the practicality of safe practices and conditions.

To be patient, tolerant but persevering in leading others to follow safe practices.

To *think* in terms of Accident Prevention, *talk* in terms of Accident Prevention and *act* in terms of Accident Prevention.

To be observing; to learn to recognize hazards, and to notify my supervisor of the hazards I observe.

To remember Abraham Lincoln's words, "Next to creating life, the greatest thing in the world is to save a life."

Typical "pass-out" leaflet summarizing discussion at Safety Observer's Meeting.

After Safety Observers meetings, "pass-out"—leaflets covering the subject discussed—are given to those attending.

Turtle Club Receives 75th Member

WILLIAM A. HENDON of Marietta, Okla., recently became the 75th member of the Turtle Club, composed of men whose lives have been saved by wearing safety hats while at work.

The accident occurred last August while he was employed by the United States Forest Service. During a forest fire in the Cabinet National Forest near St. Regis, Mont., Hendon was chopping down a tall spruce in whose branches a parachute containing supplies for the fire fighters had fallen.

A nearby tree, partially blown down and supported by other trees, broke in two at the point of support and the top portion fell on Hendon. The trunk, 16 inches in diameter, struck him on the head and knocked him to the ground. His safety hat, however, absorbed most of the impact and he suffered no severe injury.

The club is sponsored by Edward W. Bullard, president of E. D. Bullard Company of San Francisco, manufacturer of safety hats for miners, loggers, firemen and others in hazardous occupations.

Membership is gained by filling in an application giving full de-

tails of the accident. Two witnesses must testify to the authenticity of the facts. When admitted, the new member is given a membership certificate, a small lapel button replica of the club's symbol—a turtle waving a safety flag—and a decal for his hat bearing the symbol and the words "Member — Turtle Club."

The club was formed three years ago by C. R. Rustemeyer of Canadian Forest Products Ltd. in an attempt to get loggers to wear helmets. Later the sponsorship of the club in the United States fell to Mr. Bullard.

Turtles are acutely aware that but for their hats they would probably be dead. They pay no dues and have no duties except to encourage others to wear hard hats.

Among the members is a Virginia shipyard worker who was struck by a five-pound valve that fell 60 feet onto his head. Another is a Hawaiian sugar cane hand who was hit by a crane hook. Another is a New Mexico power company lineman whose hat was chipped by the sharp end of a heavy spike that fell 15 feet.

A Californian described the damage done by a door header that dropped on him. "My neck and spine was badly bent for several days," he wrote, "but not broke, thanks to the hat." Another member who survived the blow of a 16-pound ball that fell 10 feet reported no injury.

A foreman was directing a crew lowering material from the second story of a warehouse last fall when a 200-pound 4 x 4 beam slipped its safety catch. "It came down like one of those safety gates at a railway intersection," he said. "The end of it hit the hat. It bent my knees and that took up some of the shock. I heard a buzzing and a ringing in my ears but I didn't fold." The hat was not damaged.

The feeling of most Turtles is summed up in the report of one member who wrote, "Would have been among the missing if I had left my hat at home as I had planned."

Two kinds of people: Those who cause happiness wherever they go and those who cause happiness whenever they go.

FOR DISTINGUISHED SERVICE

National Safety Council Awards for Outstanding Records

THREE types of awards for outstanding performance in accident prevention are awarded by National Safety Council. These awards are made automatically on the basis of reports submitted to the Council, according to the plan recently adopted by the Industrial Conference and the Board of Directors.

The three types of awards are:

1. The AWARD OF HONOR, the highest award, replaces the Distinguished Service Award. It goes to companies which complete 3,000,000 man-hours without a disabling injury, also to those which meet rigorous statistical standards for safety work, although a no-accident record is not maintained.

2. The AWARD OF MERIT has similar but less severe requirements. The number of accident-free man-hours needed to qualify is between 1,000,000 and 3,000,000 and the standards for non-perfect records are proportionately less exacting.

3. The CERTIFICATE OF COMMENDATION is given only for no-accident records for a period covering one or more full calendar years, and involving exposure of 200,000 to 1,000,000 man-hours.

Awards are made automatically for records established within a calendar year, or may be made on special application where consecutive months of two years are involved.

Publication of awards under this plan succeeds "The Honor Roll" department formerly published in NATIONAL SAFETY NEWS.

AWARDS OF HONOR

The American Welding and Manufacturing Co., Warren, Ohio (Entire company).

Consolidated Edison Company of New York, (Entire company).

Consolidated Mining and Smelting Co. of Canada, Ltd., Sullivan Mine.

Diamond Alkali Co., Pasadena, Texas, Houston Works.

The Vollrath Company, Sheboygan, Wis. (Entire company).

Western Electric Company, Inc., Lincoln Shops, Lincoln, Neb.

West Virginia Pulp and Paper Company, Covington, Va.

Woodward Iron Company, Woodward, Ala., Mulga Mine.

AWARDS OF MERIT

Albion Malleable Iron Co., Albion, Mich. (Entire company).

American Air Filter Co., Inc., Louisville, Ky. (Entire company).

Brush Beryllium Co., Luckey, Ohio (Entire company).

Buckeye Cotton Oil Co., Augusta, Ga.

Buckeye Cotton Oil Co., Jackson, Miss.

Buckeye Cotton Oil Co., Little Rock, Ark.

Building Products Limited, Montreal, Quebec, Canada (Entire company).

Burroughs Welcome & Co., (U.S.A.), Inc. (Entire company).

Celanese Corporation of America, Central Research Laboratories, Summit, N.J.

Celanese Corporation of America, Cencel Plant, Bishop, Texas.

Celanese Corporation of America, Burlington, N. C.

Celanese Corporation of America, Staunton, Va., Plant.

City Public Service Board, Gas Dept., San Antonio, Texas.

Consolidated Vultee Aircraft Corp., Fort Worth, Texas, Division.

Container Corporation of America, Baltimore, Md.

Cabot Carbon Co., Schafer "A" Plant, Pampa, Texas.

Cabot Carbon Co., Walton Plant, Kemit, Texas.

Cabot Carbon Co., Wickett Plant, Wickett, Texas.

Celanese Corporation of America, Bridgewater, Va.

General Shoe Corp., Atlanta, Ga.

General Shoe Corp., Danville, Ky.

General Shoe Corp., Frankfort, Ky.

General Shoe Corp., Gallatin Plant No. 2.

General Shoe Corp., General Wax.

General Shoe Corp., Hohenwald, Tenn.

General Shoe Corp., Huntsville, Ala.

General Shoe Corp., Lewisburg, Tenn.

General Shoe Corp., Ninth Avenue Plant.

Johns Manville, Corp., Tilton Plant.

Pickands Mather and Company, Albany Mine, Crete Mining Co.

Pickands Mather and Company, Corsica Mine, Corsica Iron Co.

Pickands Mather and Company, Mahnomen Mine, Cuyuna Ore Co.

Pickands Mather and Company, Sagamore Mine, Sagamore Ore Mining Co.

Pickands Mather and Company, Scranton Mine, Hoyt Mining Co.

Texas-Elf Carbon Co., Bowers Plant, Pampa, Texas.

Container Corporation of America, Boston Plant.

Container Corporation of America, Philadelphia, Pa.

Cutter Laboratories, Berkeley, Calif. (Entire company).

Bemis Brothers Bag Co., Peoria, Ill.

The Flintkote Co., East Rutherford, N. J.

The Flintkote Co., Whippany, N. J.

The Formica Co., Cincinnati, Ohio, Winton Place Plant.

General Plywood Corp., New Albany, Ind.

Kentucky Synthetic Rubber Corp., Louisville, Ky., Camp Ground Road Plant.

Kraft Foods Co., Atlanta, Ga.

Kraft Foods Co., Green Bay, Wis. Assembly Unit.

The Mengel Co., Louisvile, Ky., Corrugated Box Factory.

Owens-Illinois Glass Co., Plant 14, Bridgeton, N. J.

Owens-Illinois Glass Co., Plant 68, Glassboro, N. J.

Pittsburgh Plate Glass Co., Ditzler Color Division, Detroit, Mich.

Pittsburgh Plate Glass Co., Glass Research Division, Creighton, Pa.

Pittsburgh Plate Glass Co., Works No. 6, Ford City, Pa.

The Racouette River Paper Co., R. R. Pa. Co.

U. S. Government Printing Office, Washington, D. C. (Entire company).

Whitin Machine Works, Whitinsville, Mass. (Entire company).

Woodward Iron Co., Woodward, Ala., Dolomite Mine No. 3.

Woodward Iron Co., Transportation Dept.

CERTIFICATES OF COMMENDATION

American Cyanamid Co., Calco Chemical Division, Newark Works.

Cabot Carbon Co., Estes Plant, Wickett, Texas.

Cabot Carbon Co., Guymon Plant, Guymon, Okla.

Cabot Carbon Co., Oil and Gas Department, Pampa, Texas.

New Shower Tester Keeps Checker Dry

How to check a shower without taking one is accomplished by special shower tester used in the General Electric Company's Research Laboratory.

Showers are installed at strategic points in workrooms of the laboratory to douse a scientist in case his clothes catch fire or in the event of acid burn.

Although they rarely are used, showers have to be in working order and are checked periodically. Devised by Howard H. Fawcett, laboratory safety engineer, special tester permits water from shower to be squirted into a large funnel, from which it is carried into a can. A hose conducts the water to a nearby sink.

Health: The thing people are always drinking to before they collapse.

Forty-One Airlines Win NSC Safety Award

FORTY-ONE U. S. air lines have been named winners of the National Safety Council's aviation safety award in recognition of their contribution to safe air transportation in 1951.

The annual award goes only to domestic, territorial and overseas air carriers which fly scheduled passenger runs.

Each air line qualified for the award in one of three ways: (1) it completed the calendar year of 1951 without a passenger or crew fatality; (2) it flew two billion or more consecutive passenger-miles without a fatality, even though an accident terminated its safety record in 1951, and (3) it completed five or more consecutive years of safe operation, even though an accident terminated its record in 1951.

The complete list of air carriers receiving the award, with their accumulated mileage without a fatality, follows:

Trunk Lines	Passenger Miles Without Fatality to End of 1951 or Date of 1951 Accident
American Airlines	4,675,379,000
Braniff Airways	1,988,643,000
Capital Airlines	1,059,526,000
Chicago and Southern Air Lines	1,174,102,000
Colonial Airlines	462,588,000
Continental Air Lines	586,076,000
Delta Air Lines	1,077,784,000
Eastern Air Lines	3,100,905,000
Inland Air Lines	241,613,000*
Northeast Airlines	530,175,000*
Pan American-Grace Airways	844,262,000
Trans World Airlines	2,540,855,000
United Air Lines	4,143,506,000
Uraba, Medellin & Central Airways	13,562,000*
Western Air Lines	799,802,000
Territorial Lines	
Alaska Coastal Airlines	5,342,000
Byers Airways	204,000*
Caribbean-Atlantic Airlines	37,916,000*
Ellis Air Lines	9,778,000*
Hawaiian Airlines	352,851,000*
Northern Consolidated Airlines	13,403,000*
Pacific Northern Airlines	56,018,000*
Reeve Aleutian Airways	9,221,000*
Trans-Pacific Airlines	30,617,000*
Wien Alaska Airlines	13,557,000*
Feeder Lines	
All American Airways	64,468,000*
Bonanza Air Lines	13,290,000*
Central Airlines	7,463,000*
Empire Air Lines	35,755,000*
Frontier Airlines	89,528,000*
Lake Central Airlines	7,783,000*
Mid-West Airlines	1,899,000*
Ozark Air Lines	9,828,000*
Piedmont Aviation	103,105,000*
Robinson Airlines	16,267,000*
Southern Airways	29,236,000*
Trans-Texas Airways	54,077,000*
West Coast Airlines	45,459,000*
E. W. Wiggins Airways	790,000*
Wisconsin Central Airlines	31,877,000*
Cruise Lines (Scheduled)	
Resort Airlines	3,174,000*

*No fatal accident from date of establishment of air line.

The passenger death rate of 1.3 deaths per 100 million passenger-miles for domestic operations only was not as good as 1950's rate of 1.1, but still was one of the best in air line history.

Eleven accidents in domestic and international operations marred the outstanding safety record of U. S. air carriers in 1950. These accidents cost the lives of 170 persons—142 passengers and 28 crew members, including two ground crewmen and a private pilot. In addition, 14 persons were killed in three accidents by Alaskan air carriers.

All Council awards were made on the basis of official records of the Civil Aeronautics Board, and total miles are those accumulated in scheduled passenger-carrying operations only.

Members of the Council's award advisory committee are Lt. Gen. James H. Doolittle and Harry F. Guggenheim.

NFPA Engineer Lists Atomic Age Precautions

MEASURES FOR FIRE SAFETY in the atomic age were considered by the board of directors of the National Fire Protection Association at a meeting in Boston, July 14. A seven-point program was outlined by the association's chief engineer and civil defense expert, Horatio Bond.

While the atomic bomb gives off tremendous heat which will start many fires, a series of measures, many of them inexpensive, will enable people in cities to greatly increase their chances of survival under attack.

The seven points in the recommended fire safety program are:

1. More space between buildings.
2. Radical reduction in use of combustible materials.
3. Fire-resistive building construction.
4. Automatic protection of buildings by sprinkler systems.
5. Organized teams of citizens to fight fires with extinguishers and stirrup pumps.
6. Water for fire fighting to be stored in tanks in buildings because there may be no water in city mains.
7. Day-to-day attention by owners and managers of buildings to maintaining a high order of housekeeping and general alertness against potentially dangerous fire situations.

A well-organized home army of citizens, equipped with pump tank extinguishers, stirrup pumps and simple fire-fighting equipment, will be able to combat successfully a good many small fires, he says. In many cities this should be expected to keep fires down to a number which can be handled by the public fire-fighting forces. According to Mr. Bond's analysis of American cities, this first-aid fire fighting will be of major importance if cities are to avoid disastrous conflagrations and firestorms as a result of an A-bomb attack. A fire-storm or mass fire is most to be feared, it was reported, because it could cause huge casualties. Casualties in World War II attacks resulting in fire-storms were cited: Tokyo 84,000, Hamburg 60,000, Hiroshima 70,000.

Mr. Bond pointed out, in peacetime, important buildings, such as industrial plants and department stores, are protected with automatic sprinklers. These systems,

which put water on a fire without manual assistance, reduce fire losses to something below ten per cent of what otherwise would be the case. In wartime, he believes these systems will be intact wherever buildings are standing and that if sprinkler protection is installed in a larger proportion of buildings, the survival rate against the fire effects of A-bombs, for both buildings and people, will be high.

It was pointed out that the application of this program would mean a modification of normal warehousing practices in buildings and elsewhere to limit the total amount subject to destruction in any one location. This principle places a limitation on combustible buildings which must be small and well spaced and it limits the areas and heights to reasonable figures even when so-called "fireproof" building construction is used.

Rutgers to Hold Second Conference on Vision

Rutgers University will hold its Second Annual Conference on Occupational Vision at Atlantic City, November 13 and 14, in cooperation with two state departments and five professional organizations.

This second conference will make practical applications of its forums and discussions in an extensive series of educational displays. These displays will feature testing procedures, visual conservation practices, eye safety methods, and ways of improving environmental factors for visual efficiency.

The part of the exhibit devoted to tests will include examples of flow charts and actual plant testing equipment. The display of occupational vision examples will include charts and graphs used by the New Jersey Optometric Association, the Army and Navy, National Society for the Prevention of Blindness, and Better Vision Institute. Examples of various optical devices used in aiding and protecting vision in industry will be demonstrated as well as modern environmental aids to seeing.

Courtesy means raising the eyebrows instead of the roof.

The Small Plant

(From page 41)

first-aid cases and the relatively minor disabling injuries will be entirely lost, or will be waved aside as something the insurer pays for.

The man may have a frequency of 36, but the simple, deadly psychological fact is that 36 cases spread over a million man-hours in a fifty-man plant are ten years of experience, and thus their impact on the imagination of management is virtually nil. The human mind just doesn't hold that kind of substance in its true perspective. Consider, for instance, that the death toll of the Texas City disaster is repeated every 48 hours in this country, but who knows it but the statisticians?

I am willing to venture that this incapacity to absorb tragedy in great quantities is highly desirable; it is nature's method of guarding our emotional machinery. Too keen a perception of the meaning of what goes on around us might well be the direct road to madness. In fact, if we consider the careers of some of our most famous poets, artists, musicians and other interpreters of life, we are convinced of it.

But somehow we have to break through the barrier—we somehow have to give the manager of the small plant the same kind of perspective on his section of the industry as the manager of a big organization gets from his own safety department. The question thus resolves itself into: Who can tell the small plant manager, and be believed? Who can convince him, in his own interest, to make use of the knowledge and the techniques and the materials which are at hand for him to use in controlling the hazards of his business? Very likely it is the people he knows best, the people whom he trusts, the people and organizations with whom he is on a footing of experienced and successful collaboration.

To the extent that this is true, I am saying that we need a middleman in the picture. We need a safety broker, we need a man—a whole catalog of men and agencies—who is already welcome in the front office of the smaller entrepreneur. We need somebody who talks his language, who knows his problems and who can get his attention.

That need takes us directly to local safety councils, to insurance representatives, to chambers of commerce and to on-the-ground representatives of labor departments and other government agencies who have personal contact with employers on a service basis. It has already taken us to the offices of our large corporations—to those which promote accident prevention with their suppliers.

More particularly, however, the finger of opportunity is pointed at the professional and the trade associations. In them the small employer probably has greater confidence—and with good reason—than he has in any other group or agency. The trade association is his outfit; his associates in it are his folks; it is his axe that the association is always grinding.

I am inclined to believe, if we are to develop voluntary programs of accident prevention in the smaller industries, that our best hope lies in the industry associations. Ten years ago I might not have made that statement, because it would have sounded extravagant, even to me. But in ten years the National Safety Council has learned a good deal about what can be done and what cannot be done with various approaches to the smaller business.

We have made up special services and materials and have promoted their use expensively and at length. But we have done so, until recently, with the same approach that we have used with larger companies. We have urged the development of safety programs through our own facilities. We offered the standard package, cut to size. We knew what was good for the little fellow; we told him what he ought to have and what he ought to do, and—I must confess it—he paid no attention to us.

That approach was an error in judgment. To indulge in a little prophecy after the fact, we can now see that the clue to the right approach was there already in our working relationships with many of the large and powerful associations of the country—the American Petroleum Institute, the Portland Cement Association, the Association of American Railroads, the Edison Electric Institute and dozens of others with whose names you are equally familiar. These associations had, for many years, accelerated the progress of accident prevention work within their industries to a much faster pace than could have been achieved without their initiative. The formula was there, and we did not see it.

Let it be said, however, that we have learned from experience. In the past two or three years a greatly intensified program of joint effort between the Council and associations has shown promise. This program has been conducted under the auspices of the Small Business and Associations Committee of the Industrial Conference of the National Safety Council, and has been supported by the National Association of Mutual Casualty Companies. That collaboration is, in itself, a gratifying proof of our ability to join forces when we can get better results by doing so.

To the associations themselves I should like here to give great credit for the progress which has been made. The executive officers of these associations have grasped fully the meaning of what we have in mind; in fact, some of our present newer working agreements with associations were initiated by the leaders of those organizations.

To mention but a few, the American Hospital Association is giving support to a special program of services and materials

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"... opportunity is freely given..."

PAUL M. HAHN
President, The American Tobacco Co.

"Our nation has grown great largely because opportunity is freely given. Only very few people actually make their own 'breaks.' Today, millions of Americans are providing for their personal financial security and at the same time helping in the building of our national defenses. The opportunity to do so is given by business management which affords employees the means of practicing systematic thrift through the Payroll Savings Plan for the purchase of U. S. Defense Bonds."

Nearly seven million employees of industry are "providing for their personal security and at the same time helping in the building of our national defenses."

- they are the men and women who availed themselves of the opportunity referred to by Mr. Hahn—the opportunity to enroll in the Payroll Savings Plan for the systematic purchase of U.S. Defense Bonds.
- they represent a high percentage of their companies' employees—in plant after plant, the averages are climbing to 60%, 70%, 80%—even higher.
- their investment in Defense Bonds—and America—add up to $140 million per month.
- they constitute a large block of the men and women who on December 31, 1951, held Series E Bonds amounting to $34,727,000,000—$4.8 billions more than the cash value of Series E's outstanding in August, 1945.

Not far from you is a State Director of the Savings Bond Division. He will be glad to tell you how easy it is to give your employees a Payroll Savings Plan. Or, if you already offer the Plan to your people, he will show you how to conduct a simple person-to-person canvass of your plant—a canvass intended to do only one thing—to put a Payroll Savings Application Blank in the hands of every man and woman on your payroll. Your employees will do the rest.

Phone or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D. C.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

NATIONAL SAFETY COUNCIL

The Small Plant

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produced by the Council but sponsored and promoted by the hospital people. This service now reaches nearly 1,000 hospitals. The Tanners' Council of America is promoting safety programs among its membership, and to facilitate that program, is financing the publication of a safety manual for the industry. The manual is being produced by us.

The Pennsylvania Manufacturers Association is taking an aggressive interest in the occupational injury problem within its state. Working closely with the National Safety Council and with the many specific trade associations in Pennsylvania, it is urging the individual employer to become part of the national effort to reduce accident losses.

The Education Council of the Graphic Arts Industry is putting on a nation-wide program, the purpose of which is to give intensive training in accident prevention to key supervisors within its regional areas. These supervisors will then act as key training men for management people from the local association members.

The Education Council is also jointly publishing a safety manual with the National Safety Council. It is not for lack of intent, but for lack of time, that I do not list other groups of this kind who are throwing their prestige, their money and their thought into the development of safety services for their membership.

This is as it should be. The control of occupational hazards is virtually an unexplored avenue of service for associations whose members are primarily in the small business group. To the degree that an association succeeds in lowering the injury rates for its industry, to that extent it will save its members money, improve their personnel and labor relations, and lessen the demand for controlling legislation.

Each year sees safety work become more and more indigenous a part of industrial operations, more and more closely related to job techniques, to quality control, to the training of supervisors, to preemployment physical examinations, to industrial hygiene and many allied interests and activities. To say it another way, the association which upgrades its members' work in accident prevention upgrades its entire performance as a production or service unit.

None of the things which I have said either disparages or minimizes the other avenues of approach to this question of small plant safety. These other avenues have not given us the results we have hoped for, but we may not conclude that they are valueless. Perhaps what we have needed as much as anything is a catalytic agent which would enable our various ingredients to jell. The work of the federal agencies, the state safety agencies, the insurance companies, the technical societies and associations, the local councils and the National Safety Council certainly will have more chance of success when it is directed at 175,000 small businesses whose doors have already been set ajar by their own associations.

There is more than one horse in this race. I repeat—my present emphasis on the association approach to the small plant's injury problem is only an emphasis. It is not a program. But I do believe it is one of the great possibilities, and I believe that, if we should concentrate our time and attention on helping associations help their members, safetywise, we shall be much closer than we have ever been toward justifiable frequency and severity rates in the field of small enterprises.

I trust we can find many other ways to get the small employer to see his problem and, having seen it, to make a reasonable effort to solve it himself. For safety is a job an employer has to do for himself. There are not enough safety engineers, enough inspectors, enough supervisors on earth to do the job of controlling unsafe conditions and unsafe work practices in 175,000 small organizations, even if their managers were willing to contract for their services and had the money to foot the bill.

By what means we can, we must get the small employer to do his own safety job. He has the initiative to do it, or he would not be an employer. He will do his safety job only when he wishes to do it. He will want to do it only when he believes he has adequate reasons for doing it. We have the reasons; our success must lie somehow in making them acceptable to him.

Hard Hats

—*From page 44*

Many a Milwaukee Road man, going home uninjured at the end of the day, has thanked his hard hat for making the difference.

Rock quarry crews, bridge crews working below the deck of a bridge where tools or pieces of material might be dislodged and fall from overhead, section men removing loose rocks from the face of cliffs or ice from roofs and walls of tunnels, trolley line crews, mechanics working in engine drop pits, and various other crafts have found that the best insurance against head injuries is a properly fitted hard hat.

The Experienced Worker

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personal troubles, leaves the individual no other alternative than to go to his job with his problem still on his mind. This distraction makes him that much more vulnerable to an accident and if it occurs there is no further doubt as to whose problem it is now. Perhaps you feel that you can discount this problem, that all of the men in the plant are well equipped to handle their problems, personal or otherwise. Let me give you a short form description of a neurotic, "One who looks and acts like anyone else but his illness usually is of emotional origin." In other words, his reactions to stress and strain differ from those of more phlegmatic individuals.

I don't mean to imply that you should look for neurotic tendencies in your employees, but it is interesting to note that the Army, and this is common knowledge, during the period 1942 to 1945, rejected 1,850,000 men for various psychological reasons. This was 12 per cent of all men examined. These men were returned to civilian status and can very well be members of your organization today.

To get back to these blocks that I mentioned, I would like to point out some factors that can contribute to the development of blocks. Home conditions, financial status, health, age, race, habits, disposition, character and temperament are just a few that can influence or affect a worker. Poor housing can result in a constant turnover of experienced workers and with this condition we can expect a higher accident frequency rate.

Financial status has two distinct problems today, too little and too much. Don't worry about the man who is constantly broke, he is so used to it that it does not affect him. He is the individual who habitually asks for "5" til payday. Be concerned about the individual who has a financial problem that in many cases resulted from conditions beyond his control. He normally has no financial problems and when confronted with it suddenly, becomes emotionally upset. This usually will be detected by the old story —"Misery loves company" and will come to your attention either direct or by means of the "Shop Grapevine."

We also have today the man with *too much* money. This is quite common among experienced workers who receive the present day high wage scales. Because of this *false* sense of prosperity his interest in anything connected with work may become sadly neglected.

Health. It is a common failing of a human being to worry about his health. In doing so he can *mentally* contract the most dreaded diseases and ailments ever diagnosed. He is definitely convinced that there is no cure for him. This *all* happens without a visit to a doctor! Application of the private worry table can help in cases of this type which reads as follows:

Private Worry Table

Things that never happen	40%
Things over and past that couldn't be changed by all the worry in the world	30%
Needless Health worries	12%
Petty worries	10%
REAL, legitimate worries	8%

Personal habits. Normally, I would say that personal habits shouldn't be a contributing cause for accidents, but I can't forget the case several years ago of an unusual accident. The man was an experienced toolmaker, about 50 years of age. He fell against a surface grinder while operating it, suffering a severe head and hand injury requiring hospitalization. There was no apparent reason for his falling against the machine but when questioned later he admitted that he had become a little dizzy. Further questioning disclosed that he had a habit of chewing snuff and readily explained that many times it made him quite dizzy. Later, when explaining the accident to his wife she became very indignant. To even suggest that her husband had such a habit as chewing snuff disgusted her. Apparently this was strictly an occupational habit with him. In this day and age with such a tremendous use of tobacco in its various forms, it is hard to say whether or not a condition like this could ever be corrected.

Pride and enthusiasm for his work have always been desired characteristics in an experienced worker but even these traits can upset a good safety record. I have in mind a case experienced by a small plant that manufactured various types of machinery. It had been a practice to "farm" out many of the parts that went into the manufacture of their product. During the slack period it was decided by management that some of these parts should be made in their own plant.

One of these jobs was a punch press operation that was rather complicated and was considered a challenge for a tool designer. It was given to a tool designer who volunteered for the job because of his keen interest in solving it. The die was designed and completed late one afternoon several weeks later. The shop workers had all left for the day so this designer decided to place the die in the tool room punch press and punch out a few samples to check the next day. He had many years of experience in the operation of a punch press but in his haste to finish the job he had an unfortunate accident which resulted in the loss of two fingers of his right hand.

Another condition that should be given careful consideration is the problem that can be created when providing new tools for the experienced worker. Any new equipment must have a thorough safety check and proper instruction completed before it is put to use.

An accident recently experienced by a large wholesale supply company brings this out only too

clearly. This concern did considerable warehousing and decided to purchase a fork lift machine to assist in this operation. The man assigned to operate the machine had many years of experience as a warehouseman, but had never operated a fork lift machine.

When the machine was delivered it was given to him to use. The operation of this machine was not too complicated and by experimenting with it he learned how to operate it. This was the extent of his instruction.

Several days later a carload of domestic type fuel oil storage tanks were delivered and the warehouseman proceeded to unload them using the new machine. These tanks are oval in shape and he managed to pick up three of them and started towards the warehouse when the top tank toppled over the top of the machine and fell on him while he sat in the operator's seat. This fatal accident could have been prevented if the proper safety precautions had been taken before the machine had been put into operation.

We who have the responsibility of safeguarding workers should be guided by the following six steps:

1. Men will work better with you if you manifest a sincere interest in their welfare. Prove this interest by an unfailing concern for their safety.

2. Eliminate every removable hazard, and guard every unavoidable danger point.

3. Do not tolerate in your force a man who is indifferent or careless about the safety of himself or his fellow workers.

4. Actually *practice* safety as well as *preach* safety.

5. Study carefully the unsafe working habits of your men and teach them how to overcome those habits.

6. Assume full responsibility for the *prevention of accidents* to your men and do not "pass the buck."

There is a saying that there are three ways to do a thing: The Right Way, The Wrong Way and The Army Way. A lot of us, through experience, might agree

with this statement. However, I feel that the Army should be complimented on their safety program. Very few of us have to cope with such a wide field of exposure, which includes both military and civilian personnel.

Their safety procedure is outlined in an Army Special Regulation that places the responsibility at the highest level of command.

Commanding officers of Posts, Camps and Stations and all other Army installations have the direct responsibility for the safety activities under their command.

A Commanding officer is assisted by a safety director, inspectors and a safety committee but it is *his* responsibility to see that safety is brought right down to the enlisted man in a training camp or a civilian laborer in a depot installation.

This *top level* support of a safety program is a firm foundation and industry today could use a lot of this type of support.

Industrial Health

—From page 53

normal-working-day basis.

It also recommended that the units be installed three feet or more below the ceiling and above head level and in areas where condensation of the insecticide on walls, ceilings, nearby equipment, or fixtures could fall into or otherwise contaminate exposed food. The committee specifically advised against use of the device in homes and sleeping quarters.

The committee has been advised of a number of reports of poisoning.

In one instance a generalized urticaria appeared in a 35-year-old woman clerk who was exposed to one of the devices dispensing Lindane about 12 feet from where she worked. Patch tests with the Lindane did not indicate skin sensitivity to it but removal of the device resulted in clearing up of the skin symptoms.

A 50-year-old woman developed a mild peripheral neuritis after continuous exposure to manually-controlled insecticide generators for over a year. These dispensers used a mixture of 70 per cent DDT and 30 per cent Lindane heated over an electric light bulb. The report in this instance stated that the device used in the kitchen released sufficient material to discolor the adjacent walls.

A refreshment stand operator and his employee experienced severe headache, nausea, and irritation of the eyes, nose and throat very shortly after entering their place of business which contained a vaporizer. The vaporizer was stated to have contained benzene hexachloride but the vaporizing cup contained a dark brown amorphous mass with a strong musty odor. It was thought that the vaporization must have been at higher than the recommended rates or the benzene hexachloride isomer must have been something besides Lindane to cause this situation. A similar occurrence has been reported in another food dispensing establishment using a make-shift vaporizer excessively heated by an electric light bulb.

A number of other reports have been brought to the attention of the Committee on Pesticides but complete information on these is not available.

It is known that acrid fumes are often produced by these vaporizers as the result of chemical alteration of the insecticide caused by contamination in the insecticide mixture or by faulty vaporizing devices which operate at excessive temperatures. It is particularly undesirable to permit exposure to make-shift vaporizers without the necessary safety devices to protect against fire hazard, excessive vaporization rate and excessive temperatures. Even properly installed and operated devices should not be used in areas of small volume.

Rehabilitation

West Germany's Large-Scale Scheme for Rehabilitation of Disabled Workers. Anonymous. The Labour Gazette 52:428-429 (April 1952).

The vocational training and rehabilitation of disabled workers has been organized on a large scale in North Rhineland and Westphalia since October 1, 1948. All persons of German nationality who have suffered loss of earning capacity of 50 per cent or more as the result of injuries received in military service or in industrial accident, others whose placement

would not prejudice the opportunities of the blind and those limited in earning capacity but not covered by other provisions. The law requires 2 per cent of employees in all establishments employing 20 or more persons to be disabled. The employers are obligated by the provisions of the act to give preference to handicapped job applicants, including the supplying of prosthetic appliances and adjustment of the working conditions or machinery to suit the needs of the particular worker.

All local state employment offices provide various rehabilitation services including retraining where it can be done as a short-term job. These local employment offices attempt to return the handicapped worker to the same employment he was in before his injury or to a similar employment. Where this is impossible the worker is advised of suitable occupations and of the training for such occupation.

Workers who require a training course are entitled to a maximum of six months and vocational training courses have been provided for those who had not previously been trained in any occupation. When workmen come out of these training courses the official in charge of the placement of the individual introduces him to his proposed place of employment and at the same time make suggestions to the employer concerning any changes in machines or operations which may be necessary in view of the peculiarities of the handicapped worker.

The workman receives financial aid from the state during the first eight weeks of employment and for a further period if he has not reached a sufficiently productive standard at the end of eight weeks.

During the three-year period almost 70,000 seriously disabled workers have been placed in various employment in these two states. The total number of seriously disabled individuals working in the two states is 3.7 per cent of the total labor force in establishments of 20 or more employees. The highest percentages of disabled employees are found in the post office, with 7.4 per cent, the

administration, with 6.8 per cent, and the leather and rubber industries, finance, banking and insurance with 6 per cent each.

New Laboratory to Test Food Service Equipment

A UNIQUE LABORATORY to be established at the University of Michigan, Ann Arbor, will serve as a watchdog of public health.

It will test all equipment used in food service according to standards drawn up by industrial and public health committees from all states. A "seal of approval" will be issued for that equipment meeting regulations.

The "seal of approval" program, to be run by the National Sanitation Foundation (NSF), a noncommercial organization at the U-M School of Public Health, will lead to uniform nationwide standards for equipment, food handling and other sanitary problems of food service, Walter F. Snyder, NSF executive director, stated.

The NSF will test and measure the sanitary effectiveness of public-used appliances, such as soda fountain and luncheonette equipment, and food service or ordinary kitchen equipment, including tables, sinks, cooking utensils, and dish-washing equipment.

The testing laboratory will be directed by Walter D. Tiedeman, resident lecturer in environmental health in the University's School of Public Health. He was formerly director of milk and food sanitation for the State of New York.

The laboratory "seal of approval" with appropriate identification will be available to manufacturers who conform to the accepted standards. Tiedeman asserted that it will be displayed upon the equipment itself for the assurance of purchasers, health officials and the public in general.

Dr. Henry F. Vaughan, dean of the U-M School of Public Health and president of the NSF, pointed out that equipment built to NSF standards will be acceptable to health departments all over the United States for the first time in history. "Present health codes regarding such equipment now vary tremendously," he explained.

Glazing Material That Takes Punishment

SOME YEARS ago, before the perfection of plastics, broken glass was a hazard in many plants. Since a large area of any building must be glazed with transparent materials, engineers have been constantly on the lookout for a age.

Allyl ester, a clear-thermosetting plastic material introduced during World War II by Pittsburgh Plate Glass Company for use in aircraft windows, is now being used for a wide range of glazing applications. It is now being produced under the trade name Homalite CR-39 by The Homalite Corporation, Wilmington, Del.

Although this plastic has the outward appearance of the older and more familiar thermoplastics, it actually resembles them only in optical properties and resistance to shock. It combines a hard, scratch-resistant surface in clear plastic with the chemical resistance associated with polished plate glass. It is also resistant to fluorine compounds.

During the war further experiments and developments were continued on these plastics in strict secrecy. After the cessation of hostilities industry in general began to learn of this new material.

One of the first peace-time applications was in crane and derrick cab enclosures. Here, its use was predicated on the same grounds as in aircraft windows.

Shortly after this application came into general use, Homalite CR-39 was tested for use as welders' cover glasses. The Arcos Corp. of Philadelphia conducted an experiment to determine glazing materials suitable for this type of application. Various samples of plastics and glass were placed directly under a vertical fillet welding operation, the spatter being allowed to fall on the test pieces. This represented the worst field condition to be encountered, that of overhead welding. In these tests CR-39 remained clear and whole after the other materials were either broken, pitted or burned through.

Homalite CR-39 is in service on metal-working and grinding machines, where resistance to pitting means a longer useful life. Although the thermosetting ester is not break or shatter proof, it does exhibit remarkable break-resistance. If it should break under extreme conditions, it does not form a dangerous cutting edge along the lines of fracture. It is, therefore, finding wide acceptance for glazing applications in high breakage areas such as factories, and school buildings, especially gymnasiums. A notable application is in under water observation windows in swimming pools.

In refrigerating and heating equipment its insulating qualities and ability to maintain its physical properties over a wide temperature range are brought into full play.

A recent development has been a method of mirroring Homalite CR-39. These mirrors, like the plastic from which they are made, will find many applications where exceptional optical properties combined with the light weight, scratch resistance, and resistance to breakage inherent in a plastic base will give them a definite advantage.

Electrical Engineer

—From page 33

once asked which he considered to be the most important element of his vast enterprise—his fortune, his mills or his employees, he quickly responded with a counter question, "Which is the most important leg of a three-legged stool?" It seems to me that the point of this anecdote is analogous to our modern industrial operations which would make a poor show at achieving top production with any one of the three-legs—efficiency, economy and safety—missing from the seat of productive activity.

Each year American colleges are graduating hundreds of young, untried electrical engineers. My long experience with engineering schools and colleges leads me to believe that in many cases the curriculum goes long on academic subjects and falls short in teaching these youngsters the fundamentals of safety. *—Next page*

It has always seemed to me that more emphasis should be placed on safety in the laboratory and in engineering design. These can easily be integrated with other curricular subjects. Certainly a prospective employer will be more interested in obtaining the service of a graduate engineer who has been taught the practical means by which he can protect himself and others from harm, than one who must be carefully schooled in self-protection after he joins an organization.

I think schools and colleges are doing a splendid job of turning out graduate engineers, and these youngsters have been well exposed to the teaching of sound electrical theories. But I repeat that our industry will be much more pleased to receive graduates into their organizations when they find that these job candidates have at least a working knowledge of such important things as the National Electric Safety Code, Electrical Safety Regulations, artificial respiration, and other fundamental life-saving factors. Here is one project where both the Edison Electric Institute and the American Institute of Electrical Engineers could devote time and thought to promote safety subjects in college curriculums.

Engineers can aid the accident prevention program by:

1. Actively insisting on or giving better safety supervision.
2. Assisting management and your safety departments in the development of improved methods for educating employees regarding the principles and practices of safety.
3. Making sure when designing equipment or facilities that it is sound in theory and safe for practical use.
4. Encouraging your Alma Maters to add pertinent safety subjects to their curriculums.
5. Being Careful *yourself*.

A Real Challenge

—From page 21

that these forecasts of disaster came true in other parts of the world and not in America? Our people are not any stronger than those in other countries, and perhaps we are not really any smarter. Our natural resources, while of a high order in quantity and quality, are not larger and better than in other parts of the world.

What is different in America?

I submit that the difference lies in the spirit—not in the physical properties. Americans are different because they are not bound by tradition. They are flexible. They are willing to change. We see this peculiarly American characteristic in so many forms. One is our eagerness to scrap old equipment and old ideas, if new equipment and new ideas seem better than the old. We see it in the changing definitions of terms that we use.

If you look up "republican" and "democrat" in an encyclopedia thirty years old, you will find that the definition of a republican then was one who believed in a strong, centralized government, while the democrats then were the believers in State and local rights. Today the position of the two political parties on this point is exactly reversed.

The old classic definition of a

liberal was one who believed in a minimum of governmental interference with persons' lives. A liberal today is the reverse of that. He believes in a concentration of power in the government. His name for himself, "Liberal," does not mean the same it it used to. It just means that he believes in being liberal with other people's money.

This willingness to forget the old and to change has extended into the character of management. Business management used to be in the hands of the owners of business — in the wealthy class. Management today is based upon ability, not upon ownership or wealth.

I would not have you think that I believe that all is perfect in American business. In the field of production we still have business managers to whom the maintenance of price is more important than an increase in production. We have labor leaders who by their rules restrict production. We have politicians who believe in paying people for not producing things.

In our economic organization we have some bad examples of governmental ownership of production capacity, in public power systems, in public insurance systems, etc.

In our political organization we have people who do not believe in the maintenance of political and economic liberties.

In business management we have autocrats, who would like to operate like the industrial barons of a hundred years ago. But in business management we have increasing evidence of the evolution of a new system for which no one yet has invented a name. It is something brand new in the world. Perhaps a good name for it is industrial statesmanship.

Have you ever thought of the tremendous size and complexity of business management today? I suppose that if any group of informed people were asked to write down the names of the ten great American business leaders of all time, on each list — along with J. P. Morgan, James J. Hill, Elbert Gary and Henry Ford—the name of John D. Rockefeller

would appear. But whether you measure the old Standard Oil Trust, operated by Rockefeller, by volume of sales, or value of assets, or number of employees—it comes out at about the size of the General Petroleum Corporation. As to complexity, John D. Rockefeller never had to worry about income taxes, labor unions, public relations, or competition, or government.

The job of management today is a very large and a very complex position. It is subjected to all sorts and kinds of pressures — pressures from government, from customers, from employees, from stockholders, from competitors, and from the general public. All of these add up to a situation in which businesses must be operated in such a manner that the confidence of all of these groups must be earned. Business management of today is required to be industrial statesmanship of the highest order.

In a very round-about way I have come to the subject, "Safety — a Real Challenge to Management."

What I want to do is to consider industrial safety in the spirit of the concept of management — of industrial statesmanship.

In talking about the differences between America and the rest of the world in production, in economic and political organization, I have tried to point out that the differences are based in spirit and attitude, not in physical tools.

In a recent issue of the *Saturday Evening Post* there is a report of visits made to America, under the Marshall Plan, by European industrialists trying to find out the reasons for our productivity. One Norwegian engineer put it this way, "The strength of America is not in the turn of a lathe, but in a turn of mind."

These Europeans were particularly impressed by the extensive exchange of information between competitors in our system; by the lack of servility in American business; by the cheerfulness and outspokenness of workers of all grades; by the decentralization of decision in the plants, by the number of executives who have come up through the ranks; by the frequent use of first names between employer and employee and, most strange, between the head of the company and the head of the union.

The Europeans also noted that the American, while he uses less physical energy than they do, works with more concentration. One visitor pointed to a brisk, whistling operator. "See," he said, "he works as if he were making something for himself."

These phases of American production, which have so impressed the Europeans, are matters of spirit and attitude, not of machinery and procedure. They explain our relative success and the relative failure elsewhere. They did not enter into the calculations of Malthus and Marx and Engels, and the other prophets of disaster, who considered only the materialistic factors of life and who omitted that most important factor, the spirit of man.

Here is the secret of our success

—it is in the spirit and attitude of our people.

And here is where management comes into the picture. My comments on the complexity of the management job weren't just to earn your sympathy; they had another purpose. In this complexity, the business manager can not be an expert in all of the technological phases of a business and if he tries to be an expert in one technique, the others will be neglected.

But in one aspect of American business, the management is the dominating force. That is the development and maintenance of proper spirit and attitude. If the head of the company is an autocrat, there will be little autocrats all through the company. If the boss uses his position to feather his own financial nest, you may be sure that the office boy is swiping postage stamps.

It is said of one large American company that it has the best public relations department and the poorest public relations of any company in its business. This is because the spirit and attitude of the top management is not right, and the pious preachings of the public relations department are constantly being contradicted by the antics of the company's big shots.

In the presence of pressures from government, customers, employees, stockholders, competitors, the general public, business management can't get away with anything. If you say one thing and your actions say otherwise, you will be promptly recognized as a phony.

If the things I have been saying are true, if conspicuous success is largely a matter of spirit and attitude, if management is the agency primarily responsible for spirit and attitude, if management must live as it talks, then we are ready to lay down the rules for management's role in a successful safety program:

1. Management must really believe in the importance of industrial safety.
2. Management must recognize that an industrial safety program will have to satisfy pressures from government, customers, employees, stockholders, and the general public.
3. Management must recognize its responsibility for the development of spirit and attitude at all levels of management.
4. Management must live as it preaches by providing funds for adequate safety personnel and adequate safety training procedures, and adequate safety equipment.

These are the principal requirements concerning management's participation in a safety program. They are pretty much the same as management's participation in any program. They are the elements of industrial statesmanship—belief in the rightness of the program, recognition of a public concern in the program, development of a right spirit and attitude within the company toward the program, support of those charged with the successful carrying out of the program.

If management does this part of the job, and if the right people carry out the program, you will find that it works and it pays.

The subject that I know most about is the General Petroleum

Corporation. In our company, we do have the management attitude I have described and we do have competent people working on safety. I am not satisfied with the record of our company, because we still have accidents, but I am quite proud of the progress we have made.

I believe that you will find some of our statistics interesting.

In 1951 our accident frequency rate was 2.55 per million hours worked. The overall rate of the 184 companies in the contest just ended was 10.07, four times as high as the General Petroleum experience.

Five years ago, the General Petroleum accident rate was 10.79, more than four times as high as last year. This shows good progress.

Our rate for 1951 was the lowest in our history, but evidence that it was not an accident itself exists in the rates for the past five years:

1947	—	10.79
1948	—	5.88
1949	—	6.25
1950	—	4.19
1951	—	2.55

Our company self-insures workmen's compensation risks. Last year, our company-wide costs were 19.1 cents per $100 payroll. This actual cost figure for all of our somewhat hazardous operations is lower than the insurance manual rates for messengers or sales people.

Our Production Department cost was 36.4 cents per $100 payroll, compared with manual rates of $5.79 for oil well drilling and $1.75 for oil producing.

Our Refining Department cost was 19.5 cents per $100 payroll, compared with the manual rate of $1.65 for oil refining.

Only one of our operating departments had a rate higher than our accounting department.

Our experience has demonstrated, I believe conclusively, that accidents can be reduced by adequate management and operating policies and procedures, and that a safety program is an extremely profitable operation.

The development and maintenance of a safety program is a worthwhile adventure. It is humanitarian. It is in the public interest. It is in the true tradition of industrial statesmanship. It is profitable. I recommend it.

Safety Library

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Waste Disposal

Waste Disposal Design. By Gerald L. Farrar. Oil and Gas Journal. June 9, 1952, p. 48.

Welding

Bronzewelding as a Safety Measure. By T. J. Palmer. British Journal of Industrial Safety. Spring 1952, p. 112.

Personals

E. L. Wheeler Heads Equipment Association

EDISON L. WHEELER, Wheeler Protective Apparel Company, Chicago, was elected president of the Industrial Safety Equipment Association at the annual meeting on June 25, 26 and 27 at the Homestead, Hot Springs, Va.

E. L. Wheeler

Elected also at the meeting were S. C. Herbine, Willson Products Company, vice-president; J. B. Davies, Mine Safety Appliances Company, and F. R. Davis, Jr., Davis Emergency Equipment Company, trustees.

J. A. Brewer, Industrial Gloves Company, and G. M. Glidden, Acme Protection Equipment Company, carry over as members of the Board, while Charles H. Gallaway, American Optical Company, ISEA president for the past two years, continues as a member of the Board for another year. In addition, Mr. Gallaway has been elected to the Board of Directors of the National Safety Council.

The association is divided into product groups representing all types of industrial safety equipment. Specific problems of industry may be directed to the ISEA, 420 Lexington Avenue, New York 17.

DAVID B. RENEGAR has been named safety engineer of The Chemstrand Corporation's Acrilan Plant in Decatur, Ala. Mr. Renegar, who joined the Chemstrand organization in May of this year, previously was safety engineer for the Tennessee Valley Authority, Sheffield, Ala., Hocking Industries, Clark Island, Me., and the George H. Flinn Corp., New York City.

A native of Sheffield, Ala., he attended Manhattan College in New York City. During World War II, he served with the U. S. Army, Corps of Engineers for three years. He is a member of the American Society of Safety Engineers.

J. LOUIS IRWIN has been appointed supervisor of the safety and personnel service department of Lukens Steel Company, Coatesville, Pa. He succeeds his father, George K. Irwin, who retired July 5.

Lou Irwin has been associated with the company's welfare, safety and suggestion system activities since 1913 and since 1949 has been assistant supervisor of the department.

First Dow Award Won By Kenneth Beadle

KENNETH N. BEADLE, director of safety for Pacific Intermountain Express Company, Oakland, Calif., has been named winner of the first Marcus A. Dow Memorial Award.

The Dow Award, highest in the nation for professional achievement in the field of motor transportation safety engineering, was established in 1951 by the National Safety Council through a grant by the Greyhound Corp. Announcement of Beadle's selection was made by Walter A. Stewart, president of the American Optical Company, chairman of the judges.

Mr. Beadle began his fleet safety work with Pacific Intermountain Express in 1946. Within the first two years of this employment, Pacific Intermountain Express achieved the highest honor for safe operation awarded by the American Trucking Associations and during the past four years has maintained this coveted position. This record brought to P.I.E. the Trailmobile Safety Trophy for 1948, 1950, and 1951 and resulted in P.I.E. being declared permanent winner of the trophy.

During 1950 and 1951, Mr. Beadle served as chairman of the American Trucking Association's Council of Safety Supervisors. Under his direction the Council organized the "Anti Tailgate Campaign," one of the most successful accident prevention campaigns promoted by the trucking industry. In 1951 the board of directors of the American Trucking Associations presented Beadle with the A.T.A. "Citation for Meritorious Service" for "his unselfish devotion of time and energy to the national interest of the trucking industry."

Mr. Beadle is a member of the executive committee and western regional chairman of the National Safety Council's Commercial Vehicle Section and has contributed extensively to the development of the Council's industry-wide program for commerical vehicle operators. He also has contributed to annual programs of the National Safety Congress, programs of the American Trucking Association and to local and regional activities of both organizations.

The Dow Award was established through grant by the Greyhound Corp. in memory of Marcus A. Dow, first general safety director of Greyhound and a pioneer of motor transportation accident prevention. The purpose of the award is "to recognize, reward, and foster high standards of professional achievement in the field of motor transportation safety engineering."

Newer Insecticides Have Good Safety Record

There is no need to fear illness from limited exposure to modern insect poisons, declared Dr. William F. Durham, biochemist, United States Public Health Serv-

ice Communicable Disease Center, Savannah, Ga., in an address before the recent Industrial Health Conference in Cincinnati.

Dr. Durham said the newer insecticides have not proved any more toxic than nicotine under practical conditions and have a good safety record when compared with the older poisons still in use. However, he warned, the fact that modern insecticides contribute to only a small portion of accidental deaths, should not cause us to have a complacent attitude.

Dr. Durham applauded the great contribution made by the newer insecticides to public health and agriculture. "This assures the continued production of large quantities of these compounds," he declared.

Although this implies a certain exposure to inherently toxic materials, Dr. Durham pointed out that with the exception of rare cases of dermatitis and other even rarer forms of sensitization, there is evidence that human poisoning by modern pesticides, or insect poisons, always involves extensive exposure.

"There is no scientific evidence at present," he said, "to support the idea of a very few clinicians that a wide variety of illnesses resembling common respiratory and gastrointestinal disturbances or even psychoneurosis are caused by insignificant exposure to insect poisons. However, chemical tests for the chlorinated hydrocarbon compounds, particularly when made on stomach contents, can give useful information for diagnosis. Also, the part played by long-term exposure in the total health question is as yet a moot question and is the justification for most of the present interest and research in this field.

"Considering that insects cause an annual loss of four billion dollars in the United States alone," Dr. Durham continued, "and that 54 dollars are saved for every dollar spent on insecticides, pesticides are here to stay and we would do well to learn to live with them safely. The benefits which they have brought to public health and to agriculture have fostered the development of many new industries.

"The hazards presented by the new insect poisons are not alarming but deserve our best efforts toward reduction. They may be achieved through education, labeling and establishment of tolerances. Already, the labeling requirements exemplified by the Federal Act of 1947 and by a variety of similar state legislation have done much to advance the safe use of pesticides."

Cross Country

—From page 39

covering the man with dust.

Fred tried to combat this by placing a bag to catch the dust at one end of the tube. But the men found that a strong blast of air would blow the bag—full of dust—right off the tube, making the game all the more fun. Finally the compressed air was replaced with vacuum cleaners. It's the old

story—education of workers in safe practices is the toughest job a safety man has.

I also visited Bill Block, safety director for the Meredith Publishing Company and News Letter editor for the Printing and Publishing Section of the Council. Even before I saw Bill's safety record I knew he was doing a good job: as we toured the plant he got waves and friendly nods from everyone—supervisors and workers alike. And I know that having the friendship and respect of the men is half the safety battle won!

Meredith is a honey of a printing plant—large, airy, light, roomy. Safety is part of production there—it has to be to keep those huge five-color, million dollar presses humming to meet deadlines. Down time on one of those presses—or the loss of one skilled craftsman due to an accident—can mean a production schedule shot to blazes. One of the examples of safety and production integrated, I thought, was to see a paper roll weighing several tons moved into position and started rolling without slowing up the press one bit, and without a mishap. This highly complex operation was to me a rhapsody of teamwork.

Meredith is one of the pioneers in printing safety. Along with about 60 other printing and binding establishments that make up the Printing and Publishing Section, Meredith is showing the rest of the industry—there are some 40,000 printing and binding establishments in the country—that safety pays off and that printers, skilled, individualistic craftsmen, can be educated to work safely.

This trip to Iowa was a refresher course for me. A guy kind of gets stale if he confines himself to the Chicago area and the East, where the safety movement was born and where it's now a grown man, a little set in its ways. But out Iowa way, safety is still a growing boy. And you know growing boys: they do everything a little different, give all the old tricks new twists, they're active, imaginative. That's just what accident prevention in Iowa is like!

Conserving Hearing

—*From page 38*

are now being made in conjunction with a vision check which will be given periodically to all shop employees. Audiometric examinations have, for some time, been a regular part of the physical examination given to all new employees.

The complete program contains the following elements:

1. Audiometric examinations of new employees to provide a basis for determining at an early stage, through recheck examinations, the sound sensitivities of people.

2. Periodic hearing examination for all shop employees.

3. Development of job placement procedures for individuals where unusual sound sensitivity is discovered through rechecks.

4. Completion of sound surveys at all company locations, including sound band analysis and tape recordings, where necessary.

5. Establishment of noise abatement engineering committees at the various works to study noise and develop measures to reduce its intensity.

6. Continuation of a study of protective equipment for people working in areas where sound abatement is not practical, and supplying approved protective equipment in the form of ear plugs.

7. Supplying all available information to research agencies in order to speed the development of ways of measuring sound, sound sensitivity, and sound damage, and the establishment of sound level standards.

An important step in putting the program into effect was advising company personnel concerning the significance of the undertaking. The company house organ presented a general view of the subject to all employees and supervision was given, as part of its regular foreman safety training, a detailed account of the problems involved. In addition, the program in all its aspects was presented to the union for consideration.

Although it is too early to predict the end result of the present studies being made to control industrial hearing loss, progress is being made.

Going into debt comes from spending as much as you tell your friends you make.

Queer Duck

—From page 31

deadly picture. I'm no psychiatrist, and I'm not going to put any labels on this case. But I'll tell you one thing—I would never interview that man alone in an office."

I laughed at Mac, saying, "If I ever saw a scared, worried, rabbitty kind of guy, it's this one. He's no menace."

Mac shook his head. "You can't tell. He thinks there's a conspiracy against him. Anybody who doesn't admit there is, must be a part of the conspiracy. They must be helping in the plot to weaken him, maybe destroy him. So they are enemies against whom he must defend himself. We need expert help on this."

I asked where we would get it, and Mac said there wasn't a psychiatrist in Galeston, and that he'd try to get one to come up from Chicago. Until we had the report from him, which would be a matter of weeks, we had no basis for firing the man or transferring him —and transferring would do no good, anyway.

I didn't buy all of Mac's reasoning. Here was a good workman with a good attendance record. If he was, in his mind, building up a case for compensation, we had taken the steps necessary to protect ourselves. Anyway, it seemed to me that the guy was just a little nervous and upset, and that a sympathetic, friendly approach would be likely to ease his fears.

So, for half an hour a day, I've been talking with him, trying to build his confidence in me. Apparently I'd been successful. He would come in, light a cigarette, talk calmly enough. There were no more accusations against me, and he seemed to have decided that I was trying to get to the root of his difficulty with Bill Smith and Williams. He outlined in detail their villainous behavior, and this morning I decided the time had come to counter attack. I put it to him that I thought he was imagining slights where they weren't intended, that he was too suspicious.

He just smiled his wise, sly smile. But when I came to the point where I told him I thought

that if he would trust them, he'd find them liking him better, his hands clenched hard on the arm of the chair, his face was taut, his eyes wide and bright.

"You are one of them," he shouted. "You want to deliver me into the hands of my enemies, disarm me for the slaughter. But you can't get away with it, you, you Judas."

Then he grabbed the paper weight from my desk and threw it at me. I ducked it. But I couldn't duck him as he charged, and he, I, and my chair went in a heap on the floor. Harry Dexter got him off me before he made much progress toward choking me to death, and the plant guards came in a couple of minutes. They got a straightjacket on the man and drove him to the jail to await a sanity hearing.

And tonight at home, my wife gave me a bawling out that represents something of a high point in our married life.

"Look," she said. "I'm just your wife, and I don't want to know all your business. But I'm also a nurse, remember? I've worked in psychiatric wards. Why, in the name of plain commonsense, when you catch a clear case of insanity do you have to play the amateur psychiatrist and practically get yourself slaughtered? And why, when Mac told you it was paranoia, couldn't you come to me and see whether I knew anything about it?"

I growled, "Mac never said anything about paranoia. He just said the man was feeling persecuted, and thought I was in on it, and might be dangerous."

At that, the love of my life looked at me with that sorrowing expression that I remember in my boss's face the day he told me we had a condition in which a certain gas exceeded the hygienic limit, and I said, "Does that mean it's all right for the men to work there?"

Accident Death Rates

—From page 27

per cent above the 1950 rate, but 49 per cent less than the average rate for the five years 1903 to 1907.

The largest accidental death total, and the highest rate, was recorded for persons 65 years old and older. Deaths numbered about 25,300, and the rate was 199. This was 1 per cent above the rate for 1950; but 12 per cent below the 1903-07 average rate, after allowing for classification changes.

In the age group 25 to 44 years the 1951 rate was 49, a 7 per cent increase from 1950, but a 44 per cent drop from 1903-07. For children under 5 years there were 49 deaths per 100,000 population, an improvement of 1 per cent from 1950 and 49 per cent from 1903-07. Persons 15 to 24 years old had a 1951 rate of 58—1 per cent above 1950 but 16 per cent under the 1903-07 average. Among people 45 to 64 years old the rate was 64, a 4 per cent increase from 1950, but 40 per cent less than the 1903-07 rate.

Regional Death Rates. Of the 44 states reporting accidental deaths in 1951, 12 had death rates below 60, 18 had rates of 60 to 70, and 14 had rates higher than 70. In general, the lowest rates were recorded in the Middle Atlantic states, with a regional rate of 49, and the New England states, 50. The average rate for the Mountain states was 92. In the rest of the nation rates varied only from 60 to 70.

Type of Accident. Motor-vehicle deaths ranked first among accident types in 1951, with a total of 37,300 deaths, an increase of 7 per cent from 1950. Falls ranked second with 20,600 deaths, or 2 per cent more than occurred in 1950. These two types of accidents alone accounted for over three-fifths of the accidental death total. No other accident type even approached them in importance. Fatal burns, the next most important type, numbered 6,500, only one-third the death total for falls.

The population death rates in 1951 were greater than those in 1950 for motor-vehicle accidents and drownings, the increases amounting to 5 per cent. For falls, burns, firearms accidents and poisons the rate was the same for both years. Decreases in railroad accident and poison gas death rates amounted to 4 per cent and 8 per cent respectively.

Table II gives the accidental

death total, the death rate and the change in rate for the principal types of accidents.

Occupational Accidents

Deaths in occupational accidents totaled about 16,000 in 1951, an increase of 500 over the 1950 figure. Disabling injuries numbered about 2,100,000, or 150,000 more than in 1950.

These deaths and injuries cost the nation a total of approximately $2,650,000,000 during the year. Of this amount $900,000,000 represents the value of services lost to the nation as a result of disability, even though the worker himself was compensated for a part of the loss. Medical care for injured workers cost $200,000,000 and overhead costs of insurance totaled $250,000,000. The remaining $1,300,000,000 represents the estimated money value of damaged equipment and materials, production slow-downs and time lost by other workers not involved in the accidents.

The cost of occupational accidents to industry alone averaged $40 per worker, but this average cost includes lower costs in many organizations where effective safety programs are being used. Where little has been done about accident prevention, the average cost of accidents is usually much higher.

Absence from the job by injured workers was responsible for a total loss of working time of about 50,000,000 man-days. This figure does not include time lost on the day of the injury or time required for further medical treatment after return to work. Additional losses, due to reduced productivity of others in the neighborhood of the accident, and delays while damaged equipment was being repaired brought the total working time lost during 1950 to about 280,000,000 man-days — equivalent to the working time of approximately 1,000,000 men for a full year.

Death Rates. About 27 out of every 100,000 workers in the nation were killed in occupational accidents during the year. This average for all industry results from death rates for individual industries ranging from a low of 13 per 100,000 workers in the

trade industry to a high of 129 deaths per 100,000 workers in mining, quarrying, and oil and gas wells.

Off-Job Accidents

As usual, many more workers were killed off the job than on the job during 1951. Out of a total of 49,000 worker deaths during the year, about 33,000 or 67 per cent were the result of non-occupational accidents — in the homes, on the streets and highways, or in other public places. The following table compares the death and injury totals for on-job and off-job accidents to workers and the classification of the off-job injuries.

Place of Accident	Deaths	Injuries
At work	16,000	2,100,000
Away from work	33,000	2,500,000
Motor-vehicle	19,800	700,000
Public non-motor-vehicle	7,500	950,000
Home	5,700	850,000

The ratio of off-job injuries to total injuries is even higher in organizations with good on-job safety programs. Several industrial establishments with good safety records have reported that off-job accidents are responsible for 85 to 90 per cent of the disabilities due to accidental injuries.

Motor-Vehicle Accidents

Motor-vehicle accidents in 1951 were responsible for 37,300 deaths in the United States. These accidents also caused 1,300,000 nonfatal injuries, of which 110,000 left the victim with some permanent impairment.

Motor-vehicle travel in 1951 was even greater than in 1950, approximately matching the increase in deaths. The death rate per 100,000,000 vehicle miles was 7.6, the same as in 1950, and 1 per cent above 1949—the lowest rate on record. In 1941 the rate was 12.0, so in ten years it dropped one-third.

Motor-vehicle accidents are estimated to have cost $3,400,000,000 in 1951, of which $1,400,000,000 was property damage.

In cities, towns and villages 10,700 persons were killed in motor-vehicle accidents, an increase of 5 per cent from 1950. In rural areas the death total was 26,600, an increase of 7 per cent from 1950.

Until the end of the war, the mileage death rate was approximately 11.5 per 100,000,000 miles of travel. Had the same mileage death rate developed in 1951, the death total would have been approximately 56,500, or 19,000 more than the actual number.

Home Accidents

Accidents on home premises in the United States were responsible for 28,000 deaths in 1951, or about the same number as occurred in 1950. Nonfatal injuries totaled 4,200,000. This means that nearly 3 per cent of the entire population of the country suffered disabling injuries in home accidents; and 110,000 of these were left with some permanent impairment. These accidents caused an economic loss of approximately $600,000,000.

There was an increase of about 100 in deaths from home falls from 1950 to 1951, and of 200 in fatal fire burns. These were offset

by small decreases in deaths from poisons, poisonous gas, firearms, and miscellaneous unclassified home accidents.

The leading cause of deaths continues to be falls. Of these falls, well over four-fifths were of persons 65 years or more of age. However, accidental injuries from falls in the home are not exclusively a problem of old age. Older persons do not recover from their injuries as readily as younger persons, but various home accident surveys have demonstrated that falls are a leading cause of injury in the home among all age groups.

Public Non-Motor-Vehicle

Approximately 15,000 persons were killed in public non-motor-vehicle accidents during 1951. Of these, 4,400 were killed in accidents involving street cars, railroad trains, boats, airplanes, bicycles and other non-motor road transport vehicles, but not involving motor vehicles. The largest single cause of public nontransport deaths was drowning, with a total of 4,200 deaths not including those associated with transport accidents or those in which the person was drowned in the course of his occupation. Deaths from falls ranked second with 2,700, deaths from firearms accidents third with 1,250, and fire burns and injuries associated with conflagrations fourth with 400 deaths.

Railroad

During 1951 a total of 3,570 deaths occurred in railroad accidents. This total includes deaths of passengers, employees, other nontrespassers and trespassers. This is a decrease of 2 per cent from the 1950 total.

Deaths of passengers on trains decreased from 184 in 1950 to 150 in 1951. The passenger death rate in terms of passenger miles traveled was 0.43 per 100,000,000 passenger miles. Trespasser deaths number 1,130, a 7 per cent decrease from the previous year.

Deaths of employees on duty totaled 446, a 12 per cent increase from 1950. The occupational death rate, for Class I roads only, was 0.15, or 7 per cent above the 1950 rate. The frequency rate for all injuries — deaths, permanent

SEE PAGE 13

disabilities and temporary disabilities causing absence for one or more days — was 15.03 injuries per million manhours worked.

Deaths from grade crossing accidents numbered 1,691. Collisions between trains and motor vehicles accounted for 1,508 of these deaths, a 1 per cent decrease from 1950. Motor-vehicle mileage was 6 per cent greater than in 1950.

Aviation

The 1951 passenger death rate for the domestic passenger-carrying operations of scheduled air lines was 1.3 per 100,000,000 passenger miles, compared to 1.1 for 1950. The passenger death rate in 1930 was 28.6, or 22 times the 1951 rate. Out of a total of 170 persons killed in domestic scheduled air line passenger-carrying operations, 142 were passengers, 25 were crew members, and 3 were other persons, including the pilot of a private plane that collided with an airliner.

Deaths in civilian nonscheduled domestic air-carrier service and private flying combined totaled 843 in 1951, or 8 per cent fewer than occurred in 1950. Of these, 93 deaths occurred in nonscheduled air-carrier operations, and 750 in other commercial operations and in private flying.

Understanding the Aging

—*From page 23*

valuable employee begins to shows changes which tend to classify him in the second or the third groups. In not a few instances slowly progressive deteriorative organic changes are not discovered in the employee's routine behavior, but come to attention only after some accident, illness, or abnormal response to a new situation.

Under such circumstances it is extremely important to be able to distinguish those personality reactions in older employees which are unchangeable from those which are reversible when proper psychiatric treatment is provided.

For this reason a fourth category should be added to include neurotic or psychotic illnesses of the involutionary years which are serious enough to interrupt employment, yet which carry a good prognosis and do not preclude later resumption of regular work. It is not sufficiently appreciated that the majority of the nervous and mental disorders occurring in the involutional period falls into this category.

The Climacteric

Middle life from 40 to 60 opens and closes with two emotional hurdles—one associated with the climacteric and the other with vocational retirement. People in the fifth decade are frequently troubled by misconceptions concerning the nature of the menopause.

About 15 per cent of women have some difficulty during this period. Some suffer only minor discomfort, while others are unable to continue with their daily activities. It can readily be seen how the physical symptoms common during this period, such as hot flashes, dizziness, palpitation, headaches, poor sleep, loss of appetite, and a variety of vague pains, can interfere with working efficiency and lead to increased sick absenteeism and frequent calls for medical attention.

There are a number of physchological changes which often coincide with the physiological climacteric, but they may also precede or follow the menopause by five or ten years. A complaint of general nervousness is common. By this term is usually meant a tendency to be excessively sensitive, irritable, impatient, excitable, fidgety, apprehensive, or depressed. Occasionally, when excitability gets beyond control, hysterical spells may be precipitated, and these may occur on the job over some slight disagreement or friction.

It is not possible to predict which types of women will have severe menopausal symptoms, but it is a general rule that previously well adjusted women tend to have only minor disturbances during this time. Conversely, women who have not been well adjusted prior to this time are likely to present an increase of previous complaints, and symptoms of psychoneurotic type.

A disorder which is in some respects similar to the menopause is occasionally seen in men between 45 and 55. This is some-

times referred to as the male climacteric, and is characterized by a constant state of anxiety, fear, feelings of helplessness, and severe emotional depression. The precipitating cause for this type of reaction may occur at home or at work, and those afflicted tend usually to be ambitious, active, aggressive, hard-working men who are good family providers and devoted husbands and fathers.

The disorder is characterized by loss of interest in work, lack of ambition and initiative, inability to make decisions, and a feeling of being overwhelmed by responsibilities. These men are sometimes preoccupied with feelings of guilt regarding some event in their business or personal life, and occasionally have strong suicidal impulses.

It should be obvious that conditions of this type occurring during middle life should be recognized for what they are and not merely treated for some unrelated or incidental physical disorder. They must be distinguished from organic mental diseases and presenile and senile deterioration which carry a much more serious prognosis.

Proper medical care, including hormone therapy, psychotherapy, and, where indicated, psychiatric referral, should all have consideration. Certain individuals who do not respond to out-patient care may require a period of sanitarium treatment.

Psychoneurotic symptoms and states of various other kinds may occur during the middle age period both in relation to menopausal disorders and independent of them. One fairly definite type of psychoneurosis not infrequently encountered in men and women in their fifties or sixties is known as reactive depression. This reaction is usually precipitated by situations such as the illness or death of a spouse or close relative, some serious transgression of a favored member of the family, or vocational and economic reverses such as may be the result of a transfer or demotion in work.

The typical case is acutely and almost continuously unhappy, self-centered, uninterested in everything that lacks a direct and ob-

vious bearing on his own welfare, and disinclined to engage in any but the most necessary physical or mental activities. These patients speak deprecatingly of their past and present capabilities and can think of little but their dreary sense of futility and failure.

Melancholias

Involutional melancholia makes its appearance in the years between the late forties and the early sixties, which is the period when individuals undergo the transition from active and productive adult life to that of the senium. It occurs usually in individuals who have not had a previous mental illness, but who show certain rather characteristic personality traits.

Many of these traits, incidentally, are the qualities found in employees who have outstanding records of faithful service. The individuals most susceptible to this psychosis are usually those who all their life have had strong striving for security and success. They are driving, intense, overconscientious, precise, meticulous, introverted personalities who have few interests outside of their occupation. They make every effort to suppress their emotional conflicts by means of self-imposed restrictions or by over-absorption in work.

These are the people who are frequently referred to as self-sacrificing, conscientious to a fault, and as never taking a vacation, whose life becomes a compulsive struggle and is lived according to a stern, unbending moral code. Rigidity is their outstanding characteristic.

Breakdown occurs in these predisposed individuals when they lose possession of the prized feeling of security, or are threatened by loss of human relationships on which they are extremely dependent. The psychosis is characterized by marked emotional instability, depression, agitation, insomnia, restlessness, and retardation of thought and action, and is accompanied by ideas of having committed sin or being poverty-stricken. There are often peculiar fixed ideas concerning bodily functions, particularly of the gastro-intestinal tract. In severe cases the melancholic states are extreme and may lead to attempted suicide.

The management of disorders in this group calls for collaborative planning on the part of the patient, his family, his physician, and his employer, any one of whom may take the lead in obtaining proper psychiatric referral and treatment.

Senility

It is difficult to draw a fine line of distinction between the normal changes of age and the prodromal manifestations of senile phychosis. Some early recognizable symptoms are weakening of initiative, loss of interest in things normally of vital importance in the person's life, alteration of sleep habits, obvious impairment of memory, comprehension, and responsiveness. There is often a definite exaggeration and accentuation of life-long character traits, biases, and prejudices.

Older people tend to lose active interest in the people associated with them, on the job as well as elsewhere. Their power of comprehension becomes less elastic, thought becomes more sluggish, and there is slowing of mental pick-up. Decrease in the span of attention results in earlier mental fatigue on effort. Gradual failure of memory is a very prominent feature and is in fact the most characteristic single index of psychological aging. This memory failure affects especially recent events and is associated with a tendency to dwell unduly on remembrances from the more remote past.

Misplacement of articles, and the tendency to tell the same stories over and over are familiar evidences of this change. The older individual tends to stick to an idea obstinately and dislikes departure from the beaten track of his daily routine. Conservatism of outlook and action is more or less to be expected from older employees. Hence it becomes much more difficult for them to shift to a new type of work or a new mode of living.

Many older individuals accept their altered capabilities and accommodate themselves calmly, but others react emotionally with various compensation and defense

mechanisms. Irritability and querulousness are common symptoms when the older person finds it hard to understand or adapt himself to new circumstances. Some older individuals develop restlessness, over-activity, and garrulity; others tend to withdraw from the people and things they formerly enjoyed.

Cerebral Arteriosclerosis

The mental changes due to cerebral arteriosclerosis are practically the same as those found in senility, except that they occur earlier. It is true, however, that there are many cases of cerebral arteriosclerosis in whom mental symptoms never appear.

When there is associated hypertension, of the mental and emotional changes due to progressive cerebral arteriosclerosis may make their appearance at or about the age of 50.

Personality disorders in such individuals which materially interfere with their occupational adjustment present serious problems to industry, especially when the older individual has by this time gained a position of considerable prestige and authority, and may cling to the idea that there is really nothing much wrong with him which "a little doctoring or a vacation won't fix up."

Management of situations of this type calls for not only adequate understanding of medical aspects of the aging process, but also mastery of the proper pyschologic techniques—in other words, skill in handling the special human relations of the aging.

While there are many factors determining the individual's resistance or vulnerability to senile mental change, it is certain that useful occupation has a potent influence in retarding the development of actual decline and deterioration. Physicians are all too familiar with the rapid decline in physical and mental effectiveness which follows unwanted compulsory retirement.

Older people need more than mere physical comfort and protection. They need especially to be made to feel that the knowledge, skill, and experience they possess shall be made use of in the service of society.

Calendar Contest Winners for June

First prize in the National Safety Council's Safety Calendar Contest goes this month to Harry Krug of Kansas City, Mo. The theme in this contest was too late for inspection. Mr. Krug's line was adjudged best of all those submitted. It was:

Are you ONE check away
from Pete's fate?

Second prize went to Louis E. Palffy, a miller with Standard Milling Co., Minneapolis, Minn., for this line:

Why not laws for such
flaws in each state?

Third prize was awarded to Sanchen Liss, Behr-Manning Corp., Troy, N. Y., for the following line:

But for your car it's still
not too late!

Thirty $5 awards were issued to:

Harry Bochnicek, Alpha Portland Cement Co., St. Louis, Mo.
M. Belle Hanton, New York, N. Y.
Estelle H. Lorquin, San Francisco, Calif.
Mrs. Emma B. Wood, Alexandria, Va.
Mrs. C. H. Bowlen, Haverhill, Mass.
Mrs. James Vivian, Toledo, Ohio.
Mrs. Joseph Dabes, Groton, N. Y.
Mrs. W. S. Cutter, Macon, Ga.
William Henderson, Saugus, Mass.
Mrs. Willard Ruch, Kansas City, Mo.
Mrs. Beatrice S. Adams, Richmond, Va.
Floyd Snyder, Bethlehem Steel Co., Bethlehem, Pa.
Robert Coats, Anchor Hocking Glass Corp., Portland, Ind.
Dick Wilson, Santa Monica, Calif.
Jack Z. Hoffman, Brooklyn, N. Y.
Harold Domask, Milwaukee, Wis.
Al Janes, Kendrick, Idaho.
Annis Ridings, Guntown, Miss.
Jess Massingale, Great States Corp., Shelbyville, Ind.
Louise Surgison, West Penn Power Co., Pittsburgh, Pa.
Roy Nelms, Jr., Wilson & Co., Inc., Chattanooga, Tenn.
Charles H. Adams, Boston, Mass.
Margaret F. Smith, Cumberland, Md.
John M. Gray, Long Beach, Calif.
Mrs. D. W. Carver, Muscatine, Iowa.
Mrs. Carl Schwarzbach, New Berlin, N. Y.
Mrs. M. V. Grove, Kinston, N. C.
Mrs. H. H. Helman, Quekama, Mich.
Mrs. Lois F. Pasley, Falmouth, Mass.
Mildred Stepper, North Kansas City, Mo.

Justice: What you get when the decision is in your favor.

The only sure way to double your money is to fold it and put it in your pocket.

Special Fire Prevention Week Booklet

To provide the safety director with an employee-training publication as ammunition for the observance of National Fire Prevention Week (October 5 to 11), the Council has prepared *Be Fire Wise*.

Printed in brilliant red and black, the 16-page book stresses that fire is everyone's enemy, that it destroys lives and jobs, and that the individual worker has a responsibility to keep the plant fire-safe.

Be Fire Wise accurately covers every aspect of the employee's responsibility in preventing plant fires. Photographs and line drawings show how poor housekeeping, poor materials and stacking, mishandling of solvents, and disregard of safe practices with electricity can result in a gutted plant, unemployment, maybe death.

Controlling necessary fires—as in stoves, torches, welding equipment, and so forth—and rules regarding smoking and matches are dealt with, too. Finally the book discusses how to prevent clothes from catching on fire and how to put out a clothes' fire.

As part of your fire-training program, as special promotion in conjunction with National Fire Prevention Week, or as a company rule book on fire prevention, *Be Fire Wise* fits your purpose.

Off-The-Job Safety Kit

More than twice as many people are being killed and injured off the job as at work. The National Safety Council, working with its industrial members through the off-the-job safety committee of the Industrial Conference, has prepared a complete kit of materials designed to get safety administrators off to a flying start on their program of helping reduce accidents to employees outside working hours.

Leaders of American industry realize more and more the stake they have in the off-the-job safety of their workers. Home, traffic, and vacation injuries cost industry money when skilled workers are away from their jobs for days and even weeks.

Included in the kit is a planning guide containing a wealth of constructive suggestions for carrying on your off-the-job safety program, and examples of various National Safety Council publications: posters, pamphlets for employee distribution, program aides and others. Write the Council for one of these kits. There is a nominal charge of $1.00 to cover a small part of the cost involved.

The program is a natural development of your company's safety program. The kit is your answer to how to get the program started.

Operation Safety

"Child Safety is everybody's business!" On this theory, many industrial plants plan to promote the Operation Safety September Child Safety program as a public service to their communities.

In addition to the public service value, a more immediate advantage accrues to companies sponsoring child safety programs in their plants, for accidents to employees' children may cause employees to lose time from the job. Even when there is no actual loss of time, a worker's efficiency is often lessened because of worry over an injured child.

The best way to cut down on child pedestrian traffic accidents is by getting parents to teach their children safe habits, and the September Operation Safety kit is an excellent tool for this purpose. Properly used in the plant, the kit materials can do much toward impressing upon employees their responsibility for their children's safety in traffic.

News releases stressing parental responsibility make excellent articles for house organs. Radio scripts can also be adapted for the same purpose. Radio spot announcements used over plant public address systems and the poster, "Parents, Teach Them," displayed on bulletin boards serve as persistent reminders during working hours.

The Planning Guide, which the kit contains, gives a list of films on child safety that would be fine for special plant showings. There are also two Operation Safety featured film trailers — one minute films on the September theme — that can be shown in conjunction with any plant film showing.

Sample kits and complete information regarding the Operation Safety program are available from the National Safety Council.

ASSE Chapter Launches Idea Contest

To promote interest, accomplishments and cooperation by men and women in schools and colleges with the American Society of Safety Engineers in the promotion of safety, the McKinley Chapter of the ASSE has announced a contest with prizes offered for useful ideas. Participation is open to all full time students of Akron University. The closing date will be February 1, 1953.

The fields of effort cover industry, transportation, homes, recreational activities, and allied efforts. Details may be obtained from A. C. Sherrill, chairman of the Contest Committee, McKinley Chapter, ASSE, care of Columbia-Southern Chemical Corp., Barberton, Ohio.

Income is something you can't live without or within.

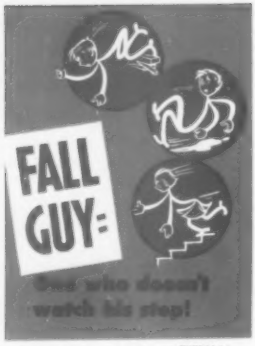
safety SAFETY POSTERS POSTERS

MAKE THE MOST OF IT!

THE 1952 Directory of Occupational Safety Posters contains miniatures of 744 posters which are in stock. ***These are top-notch selections on a great variety of subjects.*** Copies of the Directory have been sent to all National Safety Council industrial members. Additional copies are available at 50 cents each — write to Membership Dept., N.S.C.

Posters miniatured on this page and the two following are NEW — produced for the first time this month. Excepting the Jumbo poster (below, left) all will be in stock throughout 1952 — the same as those previously published in 1952 issues of the NEWS. The posters shown in black-and-white on the two following pages are actually printed in two or more colors.

MAKE THE MOST OF YOUR POSTER SERVICE by selecting from the brand ***new*** posters shown on these pages each month ***and*** from the hundreds of illustrations in the 1952 Directory.



9665-C **25x38**

Above new "C" poster, issued monthly, is indicative of the other two color posters — shown in black and white on the following pages and in the 1952 Poster Directory.

JUMBO POSTER for SEPTEMBER 1952

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".

9664-A **8½x11½**

This new four color poster is illustrative of the 72 four color posters shown in the 1952 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

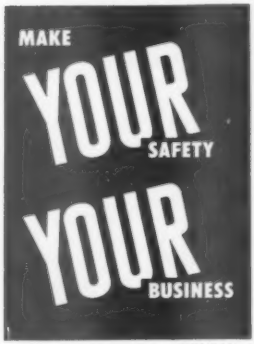
Posters below are printed in two or more colors

(Available only in sizes indicated)

9560-A 8½x11½

9544-B 17x23

9578-A 8½x11½

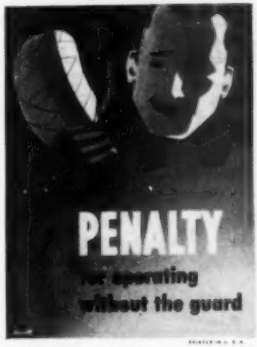


9656-B 17x23

9550-B 17x23

9543-A 8½x11½

9637-A 8½x11½



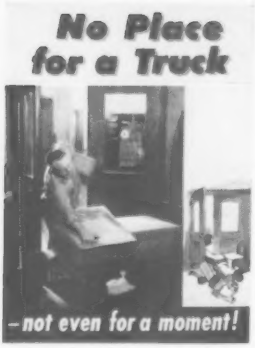
9579-A 8½x11½

9651-A 8½x11½

Electrotypes of payroll inserts can be furnished on all poster illustrations shown above.

Posters below are printed in two or more colors

(Available only in sizes indicated)



NATIONAL SAFETY COUNCIL

9640-A **8½x11½**

NATIONAL SAFETY COUNCIL

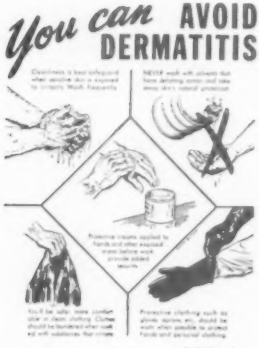
9653-A **8½x11½**

NATIONAL SAFETY COUNCIL

9635-A **8½x11½**

NATIONAL SAFETY COUNCIL

9530-A **8½x11½**

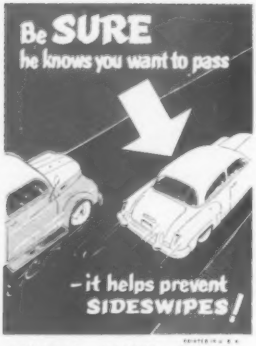


NATIONAL SAFETY COUNCIL

9594-B **17x23**

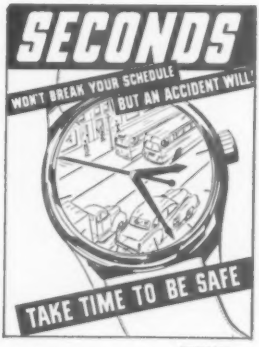
NATIONAL SAFETY COUNCIL

V-9645-A **8½x11½**



NATIONAL SAFETY COUNCIL

V-9643-B **17x23**



NATIONAL SAFETY COUNCIL

V-9642-B **17x23**

NATIONAL SAFETY COUNCIL

V-9644-B **17x23**

Electrotypes of payroll inserts can be furnished on all poster illustrations shown above.

Cement Industry Sets New Low Accident Rate

PORTLAND CEMENT MANUFACTURERS have demonstrated that disabilities and suffering from accidental injuries can be prevented by consistent educational and engineering work. Likewise, loss of earnings and production time by employees can be reduced to a minimum. And what is good for the employees has proved good for the entire industry.

The past 36 years have seen the number of occupational injuries per million man-hours worked reduced 87 per cent. For years cement has been named by the National Safety Council as one of the safest of the heavy industries. In 1951 only communications and electrical equipment made a better showing than cement among all 40 industries reporting to the Council. And cement making involves the admittedly hazardous operations of quarrying, mining and blasting, the use of high voltage electric current, intense heat and some of the world's largest moving machinery.

In the fast-moving year 1951 the personnel of member company plants established the lowest accident rate in the 36 years of Association accident prevention work. The number of disabling injuries per million hours worked dropped to 4.22, 13 per cent below the rate for 1950, 50 per cent below the rate of seven years ago and fractionally lower than the previous best record of 4.26 set in 1939. While three times as much portland cement is being produced today as seven years ago, the injury frequency and severity rates are one-half of what they were seven years ago.

Advance information from national agenices studying accident experience indicates that industrial injury rates generally rose in 1951 with increased employment and production and longer working hours. However, it was the seventh successive year of progress a gratifying results of energetic safety work.

The severity rate of 1.84 days lost per thousand hours worked was the second lowest on record and was 3 per cent below the 1950 severity rate.

Special commendation has been given the employees of 95 quarries and mines among the 127 in the membership for not sustaining a single lost-time injury during 1951. The previous years, 85 of the raw materials producing operations had been successful in stopping accidents. Quarrying and mining is rough, dangerous work at best, but in the main experience has shown that extraordinary hazards can be surmounted with the use of extra care. Some of these operations have records of upwards of 20 years without a disabling injury to any worker.

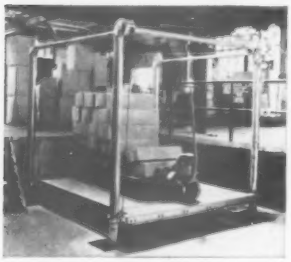
The cement industry's success in reducing occupational injuries results from a carefully planned and humane approach to the problem. Revision of work methods through engineering studies is a basic procedure. This is combined with the provision of mechanical safeguards where needed, plus persistent education, training, and competition for low accident records among employee groups.

New safety equipment for industry

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Centrifugal Governor

The Service Caster and Truck Corporation, Albion, Mich., announce new improvements on its "leveler," a power truck which will move material through a plant having different floor levels or load freight onto trucks or box-cars without removing it from the original carrier. The new improvement is a centrifugal governor which acts as an emergency brake and in addition, top and bottom automatic stops have been made more positive. Loads up



to 6,000 pounds can be raised five feet in 50 seconds with a "leveler." It is powered by a fully-enclosed one horsepower electric motor of the intermittent type, and can be used inside or out. This device can be installed anywhere as no sub-surface preparation is necessary. Base plates can be bolted to the floor for quick mounting or the "leveler" can be furnished with casters for portable operation. Checking item 1 on page 106 will bring additional information.

Soap Dispenser Eliminates Wall Mutilation

The Lightfoot Company is marketing a new soap dispenser which does away with the replacement bugaboo involving drilling new holes and ruining costly ceramic tile, marble and other permanent wall material. By using the new adapter plate of polished, corrosion-resistant chrome on heavy steel the same holes previously drilled for the old installation can be used provided they are not more than six inches apart. Lightfoot Schultz Company, 663 Fifth Avenue, New York 22, N. Y., marketers of the dispenser, also have mounting plate adapters for fixing the dispenser to either vertical or horizontal pipe over the wash basin. Further details may be obtained by checking item 2 on page 106.

Communications System

Talk-A-Phone Co., 1512 S. Pulaski, Chicago, has introduced the Talk-A-Phone intercommunications system with 11 optional features designed so that a single system may be adapted to any specific requirement from a simple inter-office system to the most elaborate industrial layout.

Adaptable to practically any individual or specific need, the units can be delivered to include all of the listed features,

or any combination required. The system combines a streamlined cabinet with any array of "plus" features required. More units and features may be added as needed without obsoleting original equipment. This makes it possible, for instance, to use a single 30-station unit with other sets which may require only 12-station capacity; or to use some Talk-A-Phone features on some sets in the installation without having to buy similar features for other stations where they have no ready application.

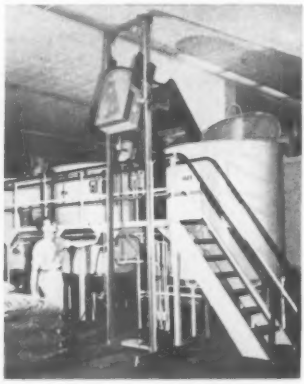
Circle Item 3

New Safe Solvent

An effective solvent for cleaning motors and electrical equipment known as Formula 602 and which is nontoxic is being marketed by The Penetone Company, Tenafly, N. J. This new solvent is as highly volatile as more dangerous degreasers, doing the job instantly and at the same time drying rapidly without leaving a residue and with no danger of corroding metals. The makers claim that it is considerably less toxic as one of the more commonly used solvents. It is also nonexplosive, requires no special precaution for storing or handling and will not cause dermatitis under normal conditions. It may even be sprayed under certain conditions. Full information can be acquired from The Penetone Company, Box NSN, Tenafly, New Jersey or by checking item 4 on page 106.

Portable Skip-Hoist

Jacob House & Sons, 52-54 St. Paul St., Buffalo, N. Y., are marketing the "Upanover" portable balanced-load skip-hoist which can be designed to solve almost any lifting problem. In loading, a bag, barrel or tote box is eased into a skip having a solid bottom. Bulk materials are dumped into a box-type skip which may be removable. Wheel boxes or ham-



pers are lifted from the floor by twin forks that serve as the bottom of the skip.

Lifting is by means of two flexible 7 x 19 aircraft cables. Each cable winding on its own half of a two-part drum, lifts half the load on each side of the skip, providing elevator code safety factor. The cable drum is mounted on the low speed shaft of a totally enclosed ball and/or roller bearing speed reducer. An outboard bearing prevents shaft deflection. Tilting is accomplished by restraining the upper or pouring end of the skip while the lifting pivot point continues to move upward until the channel-guided slide block trips the upper limit switch.

Circle Item 5

Improved Helmet

A new line of Fiberglas Safety Helmets scientifically designed for variance in head shapes allowing in all cases an adequate space between the head and the crown has just been announced by the Industrial Products Company for use in mines, mills and on construction projects and other jobs where men are subject to the danger of falling material. Adequate space between

New safety equipment for industry

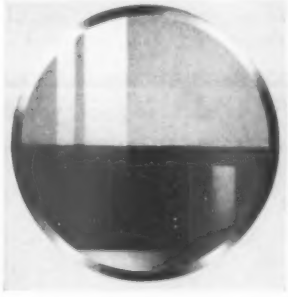
Further information on these new products and equipment may be obtained by writing direct to the manufacturer or to National Safety News. Accompanying coupon is for your convenience.

the head and helmet is important in providing a time interval for the head to "roll with the blow" when the helmet is

struck, particularly for protection of the thin tissue surrounding the brain. These helmets meet all government test specifications—drop ball, plumb bob, electrical, and other requirements. They are light in weight, fire-proof and afford full protection against flash flame, as well as being completely weather-proof. Full information may be obtained by writing Industrial Products Company at 2850 North Fourth Street, Philadelphia 33, Pa., or checking item 6 on the coupon on page 106.

Double Feature Lens

A one-piece, two-colored lens, designed specifically for workers exposed to intense visible light, ultraviolet and infrared radiations, is announced by American Optical Company, Southbridge, Mass. It is hard-



ened for utmost impact protection following the company's special fusing process and has the strength of a single lens and can be replaced in less than half the time previously required. Where one-half of the integral lens meets the other half there is no junction that might collect dirt or foreign matter and obstruct vision. Light streaks are avoided and reflections cannot distract, annoy or endanger the worker. The lenses are bevelled to fit metal or acetate spectacle goggles and also cup-type goggles and can be obtained in both flat and six curve. Additional information is available from the manufacturer or by checking item No. 7 on page 106.

Work Glove

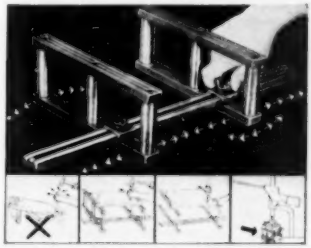
Riegel Textile Corp., P.O. Box 170, Grand Central Sta., New York, has developed a new work glove representing a savings of at least 40 percent to industrial users of canton flannel work gloves. Plastic dots, permanently set into standard 10-ounce canton flannel, make the new glove

outlast conventional gloves by more than two-to-one. U. S. Testing Co. reports show that the plastic dot fabric outlasted the 10-ounce canton flannel fabric in this ratio. In addition to the abrasive wear, the new glove retains lightness, flexibility and comfort.

Circle Item 8

Stable Die Cradle

The Acro Die Cradle provides a stable support for dies, jigs, etc. during drilling, counterboring, tapping, milling or grinding. It permits greater freedom of the user's hands. The die cradle is a steel device hardened and ground to close tolerances and consists of two parallel units each 4 inches in height and 9⅞ inches in length in the form of a frame. Two bolts and two wing nuts permit quick, easy, secure sliding adjustment to any



desired spread up to 18 inches. The two parallel units can be pivoted so that either the front or rear ends point inward or outward at practically any required angle to provide further versatility. The Acro die cradle is available in stock parallel heights of 3 inches, 4 inches, 5 inches, 6 inches and 7 inches with adjustment spreads up to 18 inches with or without center posts. The device speeds up all manner of experimental drilling, tapping, bench die and fixture assembly and at the same time provides a new kind of finger protection heretofore regarded as impossible with old fashioned, cumbersome metal or wooden blocks. Further information may be had by checking item 9 on page 106.

Armor Rod Die

The A. B. Chance Co., Centralia, Mo., who for several years has made tools for applying armor rods with hot sticks, announces the manufacture of preformed

armor rod dies to fit these tools. Using the same method used for applying straight armor rods, preformed rods can be applied even faster than the straight. This means that a complete armor rodding job on a

New safety equipment for industry

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

three phase line can be done in less than two hours including the time required to mount hot line tools on the pole and remove them when the job is done. The big advantage is in saving the time required to apply end clips hot when straight rods are used.

Circle Item 10

Strapping Machine Reduces Manual Lifting

Acme Steel Company, Chicago, is about to produce a new power-driven strapping machine designed to speed high-volume flat steel operations and reduce operator fatigue and produce strap joints by spot welding. The machine produces welded joints with strengths approaching the tensile strength of the size of the strapping used. The machine can accommodate many

different package sizes and there is no limit to the amount of strap that can be fed or the amount of slack that can be taken up. In operation packages approach the machine on a roller conveyor from the right. After strapping they leave the machine from the left. Roller sections in the table top of the strapping machine facilitate location of packages over the tensioning and welding unit, eliminating the necessity for manual lifting. Fourteen ball-transfer rollers built into the table top around the strapping mechanism further eliminate handling operations by permitting packages to pass over this mechanism or to be turned for cross strapping with a minimum of effort. Safety is further designed into the machine by making it impossible for the operator to tension or weld while he is feeding strap because he must first release his right hand from the strap before he can use it to actuate the cycle bar. Descriptive literature will be sent if item 11 on page 106 is checked.

Rubber Sleeve

The Charleston Rubber Co., Stark Industrial Park, Charleston, S. C., has developed a new design rubber sleeve called "Flex-Fit." High wide shoulders are buckled together across the chest and back and give protection (up to 20,000 volts) to

linemen working aloft. Pure rubber stock is dipped to form the sleeves which are without stiff molded seams and therefore are flexible and long wearing.

Circle Item 12

Hydraulic Lift

To ease the movement of heavy loads over rough, uneven floors and other surfaces the Big Joe Model S Platform lift, equipped with heavy-duty, dual ballbearing six-inch diameter swivel casters will take humps, holes or depressions in stride.

Loads up to 750 pounds can be raised or lowered by easy pedal pressure. There are eight other models in the line including adjustable forklifts and electrically-controlled hydraulic units made by the Big Joe Manufacturing Co., 184 North Franklin Street, Chicago 6, Ill. By filling out the coupon on page 106 and checking item No. 13 NATIONAL SAFETY NEWS will see that further information is sent to you.

* * *

You've reached middle age when your wife tells you to pull in your stomach—and you already have.

When you take responsibility on your shoulders there's no room for a chip.

NATIONAL SAFETY NEWS AUGUST, 1952
425 N. Michigan Ave., Chicago 11, Ill.

Please have complete information sent to me on items circled: 1 2 3 4 5 6 7 8 9 10 11 12 13

NAME..... TITLE.....

COMPANY.....

ADDRESS.....

CITY..... STATE.....

Trade publications

in the safety field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.

1. **"Welding Accessories and Industrial Safety Equipment":** Catalog No. 24 illustrates a large diversified line of welding helmets, electrode holders, weld cleaning hammers and protective clothing. New items shown are: helmet stop, combination skullguard and face shield, headrest helmets and industrial safety masks. The Fibre-Metal Products Co.

2. **Better Hand Protection:** Catalog illustrating Stanzoil liquid-tight all neoprene, neoprene coated and vinyl coated, protective industrial work gloves and aprons. Pioneer Rubber Co.

3. **Portelevator:** Pamphlet describes a lifting mechanism to raise and lower truck and trailer beds to suit dock and load conditions; for automatic positioning of stock in sheet feeding operations; to eliminate ramps between differing floor levels, etc. May be manually or electrically operated. Controls are hand or foot operated, or completely automatic. Hamilton Tool Co.

4. **"Give Safety a Chance":** Pamphlet presents various types of goggles, spectacles, face shields, helmets, masks and respirators. Dockson Corp.

5. **"Upanover":** Pamphlet illustrates a balanced-load portable skiphoist that lifts and dumps any free flowing material from a bag, barrel, or bulk, or container. Can be designed to solve most lifting and dumping problems. Jacob House & Son.

6. **"See With Safety":** Folder illustrating chippers goggles, dust and splash goggles, and welders goggles, along with a wide range of protective lenses for every requirement. Fendall Co.

7. **Fire Extinguishing Equipment:** File No. 216 includes catalog of hand extinguishers, piped systems, stationary units, fire trucks and trailers. Also other helpful material on fire fighting. Ansul Chemical Co.

8. **4-Way Safety Plate:** Bulletin F-1 describes 4-way floor plate with raised lug pattern providing firm, anti-slip traction, for use wherever slipping hazards exist on all walkaway surfaces. Inland Steel Co.

9. **"DuPont Reports":** Pamphlet on the success of anti-slip floor waxes made possible by Ludox (Colloidal Silica). E. I. DuPont de Nemours.

10. **"What's New for the Laboratory":** Booklet showing an adjustable type thermometer, glass tubing manipulator, "Mighty Midget" stirrer, extraction apparatus, Coleman, Beckman, and Precision instruments, vacuum pumps and sectional furniture. Scientific Glass Apparatus Co., Inc.

11. **Portable Cleaning Unit:** A brochure describing the Hoffco-Vac portable industrial vacuum cleaner. Gives information on vacuum producer, ease of handling, continuous duty and easy dust disposal. Designed for speed and convenience. U. S. Hoffman Machinery Corp.

12. **"Algrip" Floor Plate:** Booklet A-13 gives complete technical details and uses for abrasive rolled steel floor plate to prevent costly slipping accidents. Alan Wood Steel Co.

13. **Adjustable Scaffolds:** Bulletin 524 describes steel scaffolds which can be adjusted every 3 inches with self-locking platform support trusses and can be assembled and disassembled rapidly. Requires no bolts, nuts or loose parts. Baker-Roos, Inc.

14. **"Safety Protection for Welders":** A folder illustrating a complete line of safety equipment for welders, including gloves, cape sleeves, aprons, face shields, goggles and curtains. Kimball Safety Products Co.

15. **"Putting Air to Work":** Catalog 600 illustrates air handling, air conditioning, and air cleaning, along with application, specifications, engineering data, tables and charts. Westinghouse Electric Corp.

16. **Fire Extinguishers and Extinguishing Systems:** 16-page illustrated catalog lists fire extinguishers and systems for all class fires. Featured is the Randolph "6," a one-hand, trigger action, carbon dioxide extinguisher. Randolph Laboratories.

17. **"Color Dynamics in Industry":** Booklet discusses the important role of color in increasing plant and office efficiency and reducing accident hazards. Pittsburgh Plate Glass Co.

18. **Industrial Work Gloves:** Literature describing and illustrating plastic coated work gloves, gripper mittens and pads, aprons and welding curtains that are water, oil, acid and caustic proof. Howard M. Grant Co.

19. **"Conserving Our Most Critical Resource":** Booklet published in the interest of protecting our country's manpower and procedures to be applied to conserve this critical irreplaceable resource. Mine Safety Appliances.

20. **"Foundry Mechanization":** Book No. 2439 contains selection of actual case histories together with photographs of conveying, elevating and processing machinery, mechanical transmissions, and chains in a wide variety of applications together with typical layout drawings. Link Belt Co.

21. **Fire Fighting:** Pamphlet illustrating the new General non-inverting pressurized water-type fire-guard. Featured is the Dry Powder fire extinguisher especially recommended for use on gas, oil, electrical, paint and flammable liquid fires. Will not freeze even at lowest temperature. The General Detroit Corp.

NATIONAL SAFETY NEWS — AUGUST, 1952

425 N. MICHIGAN AVE., CHICAGO 11, ILLINOIS

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

11	12	13	14	15	16	17	18	19	20	21
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Please have sent to me the publications checked:

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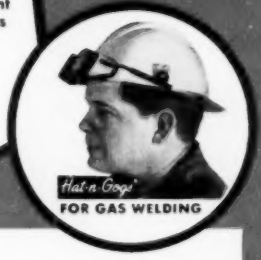
COMPANY .....

ADDRESS .....

CITY ..... STATE .....

Advertisers' Index

CESCO *RIGHT... before your Eyes!*



WHERE TO BUY IT...

ATLANTA, GA.
Guardian Safety Equipment Co.
427½ Moreland Avenue, N. E.

BIRMINGHAM, ALA.
Guardian Safety Equipment Co.
4215 1st Ave. No.

BOSTON, MASS.
General Equipment Corporation
261 Franklin Street

BUFFALO, N. Y.
The Watson Company
1443 Main Street

CHICAGO, ILL.
Universal Safety Equipment Co.
5115 Diversey

CINCINNATI, OHIO
Williams & Co., Inc.
3231 Fredonia Avenue

CLEVELAND, OHIO
Williams & Co., Inc.
3700 Perkins Avenue

COLUMBUS, OHIO
Williams & Co., Inc.
851 Williams Avenue

DETROIT, MICH.
Averill Equipment Company
19225 Conant Avenue

EAST ORANGE, N. J.
Guardian Safety Equipment Co.
491 Prospect Street

HOUSTON, TEXAS
Guardian Safety Equipment Co.
1915 A Westheimer

KANSAS CITY, MO.
Safety, Incorporated
17½ E. 31st Street

KNOXVILLE, TENN.
Safety Equipment Distributing Co.
832 W. Main Street

LITTLE ROCK, ARK.
Fire Appliance & Safety Co.
1114 W. Markham

LOS ANGELES, CALIF.
Guardian Safety Equipment Co.
6104 S. Main Street

MILWAUKEE, WIS.
Universal Safety Equipment Co.
3155 S. 7th Street

PEORIA, ILL.
Universal Safety Equipment Co.
1710 Main Street

PHILADELPHIA, PA.
Guardian Safety Equipment Co.
214 S. 45th Street

PITTSBURGH, PA.
Williams & Co., Inc.
901 Pennsylvania Avenue

ST. LOUIS, MO.
Safety, Inc.
2608 Olive Street

ST. PAUL, MINN.
Continental Safety Equipment, Inc.
1551 Selby Ave.

SALT LAKE CITY, UTAH
Universal Fire & Safety
Equipment Co., Box 1587

SAN FRANCISCO, CALIF.
Guardian Safety Equipment Co.
50 Hawthorne Street

SPOKANE, WASH.
Spokane Safety Appliances
W. 310 Pacific Ave.

TOLEDO, OHIO
Williams & Co., Inc.
650 E. Woodruff Avenue

TULSA, OKLA.
Guardian Safety Equipment Co.
1742 S. Main Street

MEXICO CITY, D. F.
Safety Equipment S. A.
Paso de la Reforma 1-856

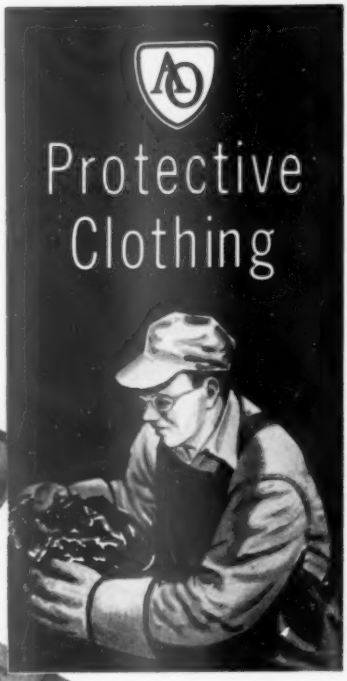
MONTREAL, CANADA
The Butler Optical Company, Ltd.
1520 Mountain Street

CHICAGO EYE SHIELD COMPANY • **2306 Warren Boulevard, Chicago 12, Illinois**

CESCO

CESCO FOR SAFETY

AO Steel-Stapled **HAND PROTECTION** — Materials Handling Equipment for the HARDEST SERVICE!



AO makes a complete line of steel staple-reinforced, chrome-tanned cowhide gloves, mittens and hand pads. All are made to withstand hard wear on the roughest jobs yet remain flexible and comfortable. Your nearest AO Safety Product Representative can supply you with these BIG VALUES in protection and serviceability.

RECOMMENDED USES:

- **AO 1644 GLOVE** — For heavy operations in foundries and steel mills, heavy casting, handling of rough scrap.
- **AO 1655 GLOVE** — For grinding and rough operations.
- **AO 1660 GLOVE** — For foundry work and grinding.
- **AO 5X138 GLOVE** — For use in steel mills on flying shears, handling rough scrap, etc.
- **AO 5X264 GLOVE** — For handling small castings, rough stock and similar.
- **AO 1674 MITTEN** — Reversible, may be worn on either hand. For handling steel sheet stock, scrap, wheel castings, rough material.
- **AO 1201 HAND PAD** — For steel scrap and rough steel.

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